OCTOBER 9, 1937

Railway Age

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Railway Age

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An article describing a sharp skew of grade separation that carries the Milwaukee tracks over Waukegan road near Chicago, requiring girders 142 ft. long.

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Tells how engine crews will share in 6.6 per cent rise, which will increase railroads' payroll more than $35,000,000.

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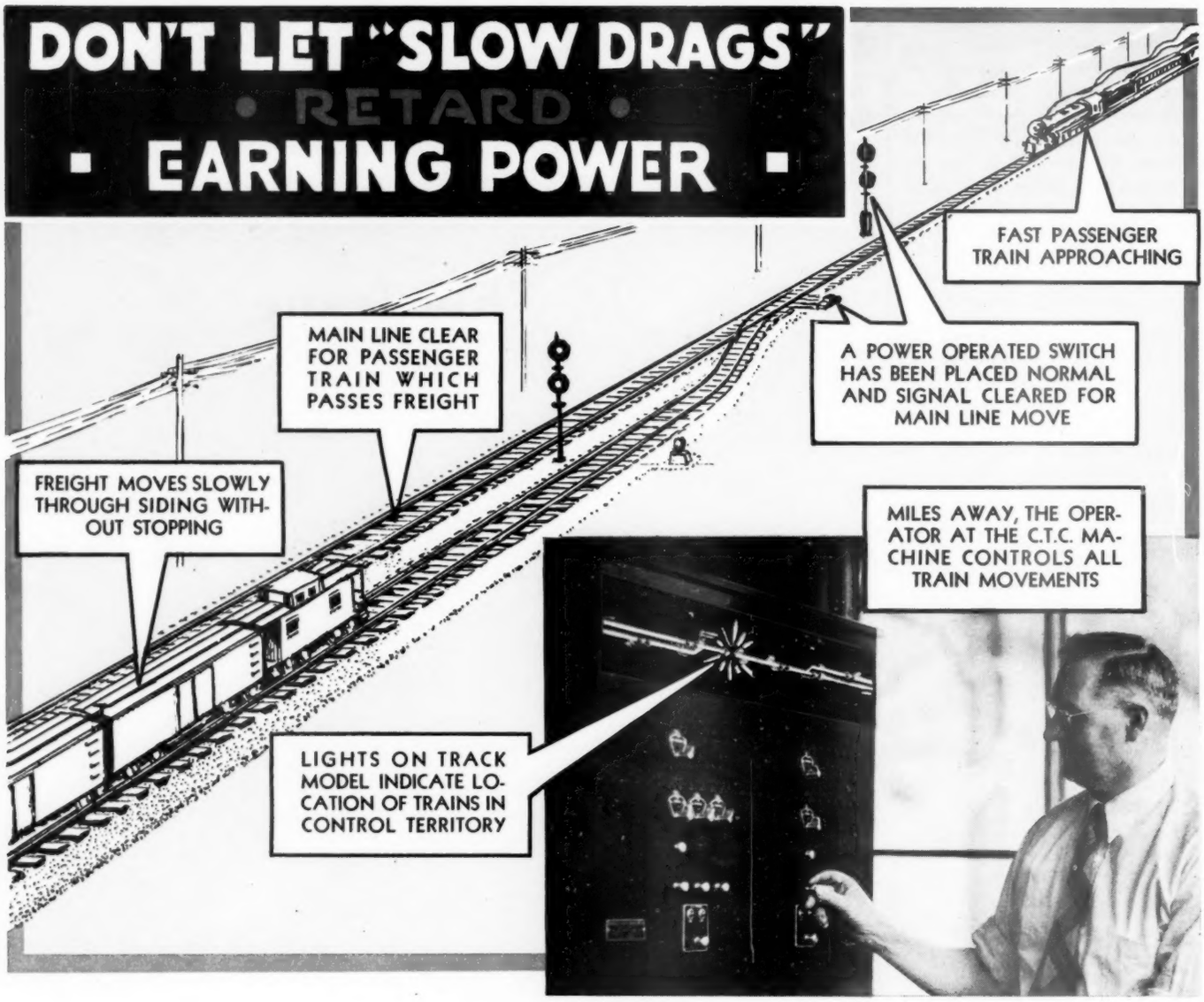
DON'T LET "SLOW DRAGS" • RETARD • ▪ EARNING POWER ▪


FAST PASSENGER TRAIN APPROACHING
A POWER OPERATED SWITCH HAS BEEN PLACED NORMAL AND SIGNAL CLEARED FOR MAIN LINE MOVE
MAIN LINE CLEAR FOR PASSENGER TRAIN WHICH PASSES FREIGHT
FREIGHT MOVES SLOWLY THROUGH SIDING WITHOUT STOPPING
MILES AWAY, THE OPERATOR AT THE C.T.C. MACHINE CONTROLS ALL TRAIN MOVEMENTS
LIGHTS ON TRACK MODEL INDICATE LOCATION OF TRAINS IN CONTROL TERRITORY

AN UNINTERRUPTED, smooth flow of traffic is necessary not only to meet today's highly competitive schedules, but to increase safety and reduce operating costs. Assure yourself of such operating safety and economical advantages by installing "Union" Centralized Traffic Control. The high regard those responsible for the direction of train operation have for this modern signal system is typified by the following abstracts from a letter of a Chief Dispatcher:

"It is equal to, and in some respects better than double track. In fact, several moves can be made with this equipment that are impossible without it. For instance, one train may be headed into siding, and while this train is drifting to the opposite end of the siding, a faster train may pass it, with neither train being brought to a stop. Also, due to the fact that all switches are lined by the dispatcher, a heavy freight may be advanced one or more stations beyond the point where it would have to let a faster train by under ordinary double track operation. This, due to the fact that the dispatcher lines the switches, saving the time necessary to stop train, throw the entering switch, start the train and pull into siding, and throw the switch in order to clear the automatic signal nearly a mile away, then wait for the fast train to pass. Under C.T.C. this twenty or more minutes need not be considered, as the entire move is made without bringing the slow drag to a stop."

Don't let "slow-drags" retard earning power on your road. Consult our nearest office representatives today on how to safely speed up traffic with economy.

UNION

1324

1881 **Union Switch & Signal Co.** 1937

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The Week at a Glance

CARLOADINGS: In the week ended September 25, cars loaded totaled 840 thousand, up 4 per cent over last year.

●

NET DECLINES: Net railway operating income in August totaled 50 million dollars, which was a decline of 22 per cent under August last year. This disappointing result shows what increased wages and other rising costs are doing to the railroads —because gross revenues in August were 2.6 *above* those of the same month in 1936. Net income (after interest and all other charges) in July was 19 millions—slightly under the July, 1936, total.

●

THEFT REDUCED: Claims paid by the railroads for losses caused by theft in the first half of 1937 reached the lowest total on record—302 thousand dollars, a decline of 26 per cent under last year. With their record of crime curtailment, railroad police might well be asked to take over the work of some of the metropolitan police departments.

●

ACCIDENTS: In June 46 employees on duty were killed, as compared with 38 in June, 1936, and 2,073 were injured (1,642 last year). Total deaths, however, were lower for the month—and not a single passenger was killed, either on trains or off. Despite an increase of 17.8 per cent in passenger-miles in the first six months of this year, not a single passenger was killed in a train accident.

●

EDUCATION BY SPEECHES: An editorial herein cites misleading statements regarding the railways which appear in the labor union press as evidence of an uncritical and poorly informed opinion on the part of railway employees, which, it is contended, only genuine education—not counter-propaganda—can overcome. The effectiveness of authoritative addresses in such education is questioned as long as no formal provision is made to encourage audiences to assimilate and utilize the information thus laid before them, with suggestions as to how this may be done.

●

LOCOMOTIVE LIFE: A study of locomotive repair costs with advancing age, by Supervisor of Costs J. R. Macken of the C. P. R., is published in this issue. Mr. Macken bases his analysis on case studies of actual locomotives in the effort to determine the age at which repair costs become excessive, making it more economical to purchase new engines than to continue the older ones in service.

●

WHY WE ARE POOR: The *physical* volume of production per capita in 1935 was 120 per cent of the 1901 level, whereas in 1929 physical production was 166 per cent of the 1901 level. This fact is brought out in an article in the October 1 New York Times Annalist, emphasizing that it is physical goods available for consumption which measure our well-being—not money incomes. The current politico-labor union doctrine that everybody who works should produce fewer physical units than he did in '29 is bound to mean less real income all around, regardless of the dollar level of wages; and, as the Annalist article shows, the diversion of capital investment from productive enterprise to non-productive public works is making a lower standard of living all but inevitable.

●

TRAIN WAGE BOOST: The Carriers Conference Committee has agreed to raise the wages of train and engine employees by 44 cents a "basic day," which will mean a lot more than that in actual wages, and will cost the railroads 35 millions annually.

●

BACK TO 1932: With the advance in wages granted to train service employees, net railway operating income is headed—at least temporarily—for a hole deeper than that of any year except 1932. The application of the increase to August earnings is made in the leading editorial herein, with an analysis of its effect on yearly earnings. The editorial further states that *if the facts were disclosed regarding the pressure applied by the federal government mediator they would show that the settlement was far from voluntary.*

●

STOKER ARGUMENT: Division 3 of the I.C.C. will hear oral argument on November 15 on the proposal of Examiner King that the railroads be required to install stokers on all large locomotives which, the examiner contends, would save money as well as make the going easier and safer for the firemen.

●

A HARMFUL TAX: The tax on undistributed profits is particularly harmful to transportation, in the opinion of the Chamber of Commerce of the United States, which says that this tax prevents the railroads from re-equipping themselves properly, places an obstacle in the way of accumulating a "nest egg" to tide over depressions, and penalizes the strengthening of the financial structure by repaying debts, including those owed to the government.

●

PURCHASES OFF: The railroads' purchases (exclusive of fuel and equipment) in July were 4 per cent less than in June, but still were 41 per cent greater than July last year. An article herein analyzes the totals in detail.

●

HONOR JEFFERS: Some 6,500 Union Pacific employees with distinguished guests, which included prominent political leaders and labor executives, honored President Jeffers on his elevation to his new office at a banquet in Omaha last Saturday, an account of the party appearing elsewhere herein.

●

3.3% EQUIPMENT LOAN: The New Haven has sold $1,660,000 of 3 per cent 10-year equipment trust certificates at 98.517, making the average interest cost approximately 3.3 per cent.

LONG PLATE GIRDERS: Two of the longest plate girders (142 ft. 2 in.) are the principal characteristics of a grade crossing structure of the Milwaukee over a 4-lane highway at Glenview, Ill., described in an illustrated article herein. Construction involved several novel features, including circuitous routing and slow handling when the girders were shipped, necessitated by their out-size, and their lowering into place without lifting equipment—sand boxes being used instead.

●

BRITAIN'S RAILROAD COLLEGE: Sir Josiah Stamp, president of the L. M. S., recently laid the corner stone of that railway's staff college at Derby. Living quarters are provided for 50 students who will be chosen in rotation from among the road's officers, supervisors and employees. Study will be along "refresher" lines to keep the staff up-to-date on the latest improvements in each department of railway work.

●

TRAFFIC DECLINE IN N.W.: The Pacific Northwest Shippers Board predicts a reduction of 5 per cent in carloadings for the fourth quarter, under the total last year. Particularly disturbing is an expected decrease of 12 per cent in lumber and building materials—in view of the importance of the building industry to general prosperity.

●

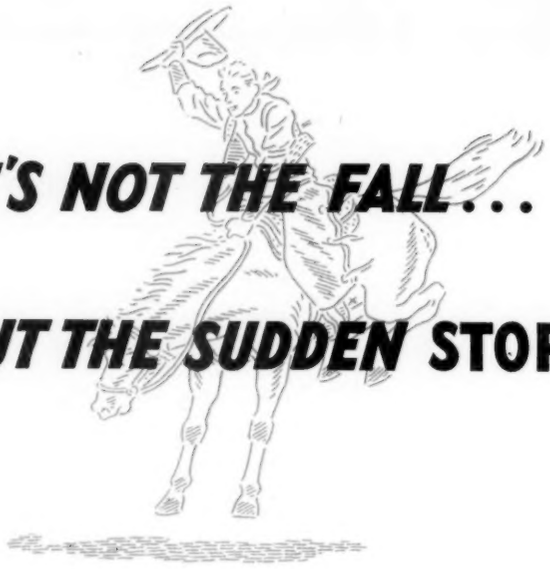
MILEAGE RATE STUDY: The I.C.C. Bureau of Statistics has issued "as information" a study on "Progression in Freight Rate Mileage Scales" summarized herein in which is developed "one standard scheme of progression in the rate for increasing mileage."

●

25% FARE INCREASE: The Eastern roads were incorrectly reported in the newspapers Thursday to have decided to ask the I.C.C. for authority to raise coach fares from 2 cents to 2½ cents a mile, but the secretary of the Eastern executives' group denies that such a decision was reached. Perhaps the roads can convince themselves that they would make more money from such a boost and, if so, then they ought to have it. All the same, it cannot be denied that present low fares have brought, and are bringing, a remarkable increase in traffic, revenues and public good-will—assets which everyone interested in railroads would dislike to see jeopardized without a pretty convincing case to support a change.

●

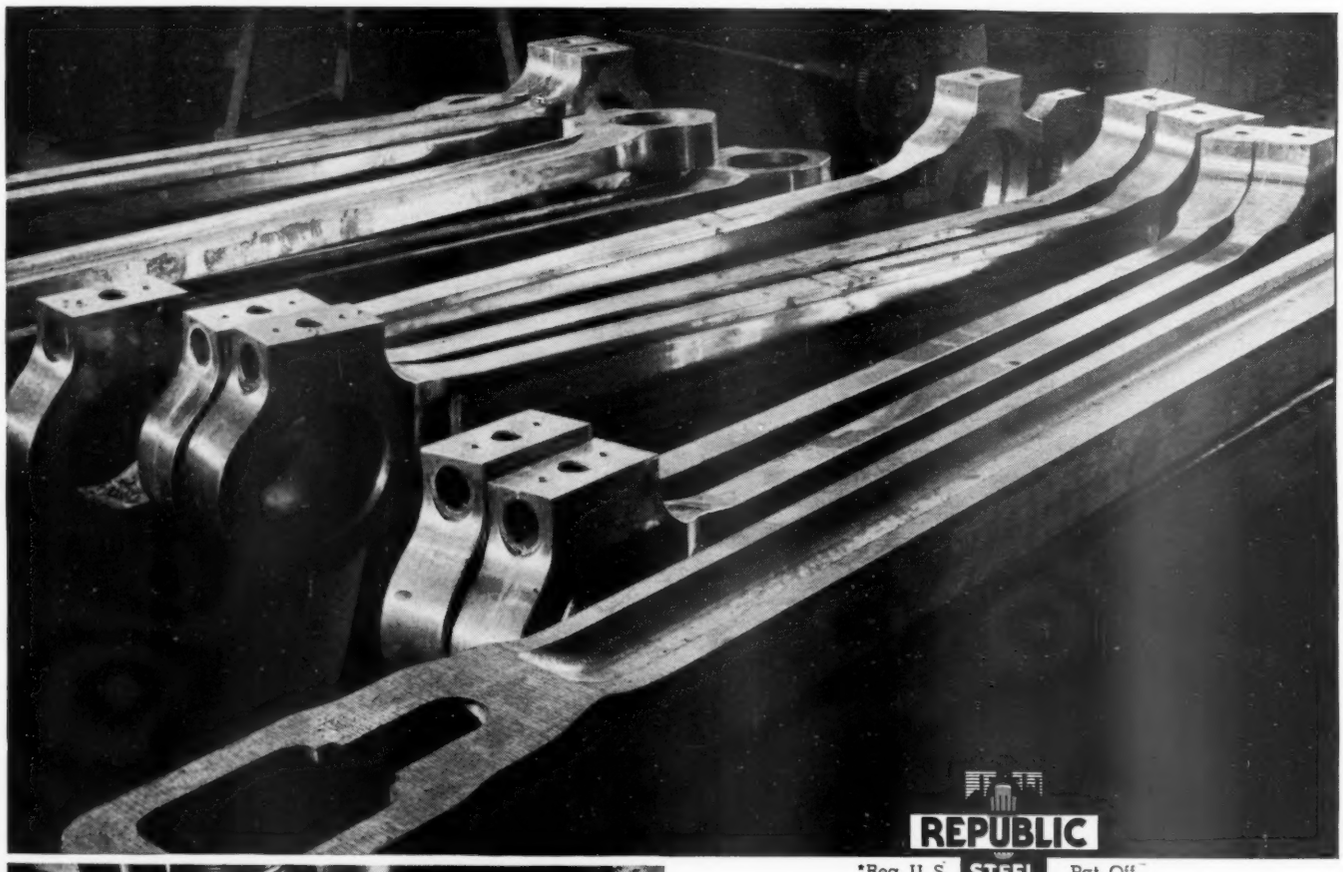
FOURTH SECTION: Col. A. B. Barber, manager of the transportation department of the United States Chamber of Commerce, addressing the Shippers Board at Newark, N. J., on Thursday, while refraining from advocating the Pettengill bill, did call attention to the heavy majority by which the Chamber voted in favor of this measure and expressed approval of "adjustment of rates to meet legitimate requirements of industry and trade."



IT'S NOT THE FALL...

BUT THE SUDDEN STOP

If it was just a steady pull or a steady push, life for reciprocating parts wouldn't be so tough. » » » But they reverse their direction, stop and start again, 288 times a minute with a train speed of 60 miles per hour and 70-inch drivers, many times quicker than the eye can follow. » » » You can get the needed strength for this in two ways—with cumbersome, heavy sections of ordinary steel—or lighter sections of alloy steel. » » » The lighter weight of Agathon* Alloy Steel also reduces the maintenance cost for both locomotive and track because it reduces the counterbalance problem and all related factors. » » » Agathon Alloy Steel is dependable steel—its use means greater safety and more economic service at the higher speeds of modern railroading. » » » Let us present further data. Address department RA.



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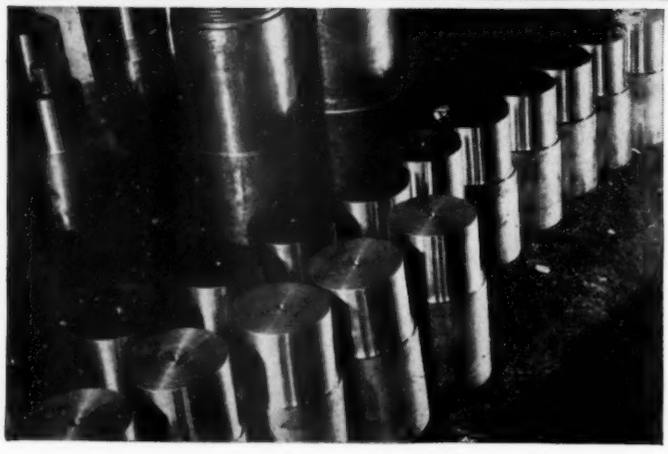

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RAILWAY AGE

Wage Advances and the Railway Situation

The recent agreements by the Carriers' Conference Committee and the labor unions resulting in advances in railway wages of about $135,000,000 annually are among the most significant developments that have ever occurred in the history of the railways of the United States. This is especially true of the agreement made last Sunday night for an advance of $35,000,000 annually to enginemen and trainmen. The advances in wages will cost so much that they would be significant even if the railroad industry were prosperous. They derive their very great significance from the fact that they have been made at a time when the industry is very far from prosperous—so far from prosperous, in fact, that the advances in wages will, temporarily at least, reduce the net operating income of the industry to a lower level than it reached in any year of the depression excepting 1932.

Net Now Lower Than Last Year's

Railroad freight business steadily increased more than seasonally from July, 1935, to the end of May, 1937; and throughout this period net operating income increased in spite of increases of expenses and reductions of rates. During the four months June-September, inclusive, freight business increased less than seasonally, until in July and August it became relatively the smallest since September, 1936. Meantime, increases of expenses accelerated, with the result that in July and August net operating income was smaller than in 1936. The latest month for which there are available statistics making it practicable to appraise the present and immediately prospective railway situation is August. This was the first month in which the advance of more than $8,000,000 a month in the wages of the non-operating employees was in effect. The additional advance of about $3,000,000 a month made this week in the wages of the train and enginemen did not become effective until on October 1; but it must be considered in connection with the figures for August in order to determine approximately the relationship existing after October 1 between earnings and operating expenses.

Where the Railways Now Stand

In an accompanying table are given statistics for the month of August in the years 1929, 1932, 1933, 1936 and 1937. Comparisons between 1929 and 1932 reveal the declines in traffic and earnings that dragged the railways to the bottom of the depression. Comparisons between the figures for August, 1932 and 1933, and for August, 1936 and 1937, disclose how much "recovery" has occurred in the railroad industry. The net operating income of $50,308,000 earned in August, 1937 was almost twice as large as that earned in August, 1932. But it was $14,300,000 less than in August, 1936; $11,100,000

	Month of August					Per cent decrease compared with 1929			
	1929	1932	1933	1936	1937	1932	1933	1936	1937
Car Loadings	4,542,289	2,306,045	2,567,071	3,062,378	3,182,943	49.2	43.5	32.6	29.9
Gross Earnings	$587,322,413	$249,388,763	$297,030,893	$350,447,811	$359,611,955	57.5	49.4	40.3	38.8
Operating Expenses	$396,204,945	$187,646,632	$202,470,715	$246,198,563	$268,190,412	52.6	48.9	37.9	32.3
Taxes	$38,371,255	$23,686,584	$22,696,942	$27,997,683	$29,643,343	38.3	40.8	27.0	22.7
Net Railway Operating Income	$141,758,499	$27,985,137	$61,401,984	$64,624,212	$50,307,881	80.3	56.7	54.4	64.5
Per cent Rate of Annual Return on Investment	5.13	0.97	2.12	2.28	1.77				

less than in August 1933; and $91,451,000, or 64½ per cent, less than in August, 1929. If the advance of $3,000,000 a month to the train and engine employees had been in effect in August the net operating income earned in that month would have been only about $47,000,000. This would have been about $18,000,000 less than in August, 1936; about $14,000,000 less than in August, 1933, and about $95,000,000, or 67 per cent, less than in August, 1929. It would have been at an annual rate of 1.66 per cent on property investment. Net operating income for a year at this rate would be about $430,000,000. The net operating income earned in the depression years has been as follows: 1930, $869,000,000; 1931, $526,000,000; 1932, $263,000,000; 1933, $474,300,000; 1934, $463,000,000; 1935, $500,000,000; 1936, $667,300,000. These figures show that, as already stated, the recent advances in wages, added to reductions of rates, deceleration in the increase of freight business, increases in prices and taxes and other causes have, temporarily at least, reduced the net operating income now being earned to a lower level than it reached in any year of the depression with the exception of 1932.

How "Voluntary" Were Wage Increases?

This paper was very outspoken and emphatic during the recent wage movement in expressing and supporting the view that under existing railroad and general business conditions no advances in railway wages excepting to a limited number of employees were economically justifiable. The fact that settlements granting increases have been made has not altered its views in the slightest degree. The railroads in August handled 24 per cent more freight than in August, 1933; and yet even if none of the recent advances in wages had been in effect in August, 1937, their net operating income in that month would have been smaller than in August, 1933.

If all the recent advances in wages had been in effect their net railway operating income in August, 1937, in spite of an increase of 24 per cent in freight traffic, would have been 23 per cent less than in August, 1933, when the nation was just beginning to emerge from the most profound depression in history. Considering the conditions and the effects produced, the movement for advances in wages carried to success by the railway labor unions in 1937 must rank as one of the most extraordinary events in the entire history of the railroad industry.

"A Condition, Not a Theory"

Railway managements considered that it was a "condition, not a theory," with which they were confronted. The "condition" was the attitude of the present national administration toward labor and wages. Railway managements agreed to advances principally because of a reason emphasized in an editorial in the *Railway Age* of October 2—namely, "fear of government—fear that if the managements did not grant some advances in wages the government, in one way or another, would force them to grant still larger advances; fear that the government would not 'stand for' a railway strike, but, if it occurred, would intervene in some way disadvantageous to railway management."

Effects of Reduced Net Operating Income

It could serve no useful purpose to discuss further in these columns the issues involved in a controversy supposed to have been settled voluntarily by those directly parties to it. We say "supposed to have been settled voluntarily," because if the facts were disclosed regarding the pressure applied by the federal government mediator they would show that the settlement was far from voluntary. It may, however, serve some purpose to emphasize the railway situation which has been created partly, but only partly, by the wage settlements. It is a "condition, not a theory," which now confronts the public. The public cannot afford to leave the railways under private ownership and management and have them earn annually a net operating income that will produce only 1.66 per cent on their investment—the rate of return to which "recovery" under New Deal policies has now reduced them. This would mean for the railroad industry a condition of permanent depression about as bad as that from which it was supposed to be suffering only temporarily in 1932 and 1933.

If emergency government measures were warranted then to promote recovery in general business they are even more warranted, in the public interest, to help the railroads pull out of the depression into which they have now been pushed down. Without a large increase in the net operating income being earned at present the railway companies now in bankruptcy would stay in bankruptcy. Numerous additional railway companies would go into bankruptcy. Buying of equipment and materials by the industry as a whole would be drastically and permanently curtailed. Unable to continue and increase its purchases of equipment and materials, the industry would become unable to maintain its present service, much less continue to enlarge and improve it. With net operating income everything is possible in the railroad industry. Without it nothing is possible.

Increased Expenses and Freight Rates

The necessity for increasing railway net operating income is plainly imperative. Why, then, has it declined to such a low level and what measures should be adopted for increasing it to a reasonable basis? That the present railway situation is due only partly to advances in wages was shown in an editorial in the *Railway Age* of August 28 entitled "A Great Railway Crisis and Its Causes." On an annual basis the taxes and operating

expenses of the railroad industry have now been increased about as follows during the two years since 1935: Retirement and social security taxes, $97,500,000; fuel (due to increases in prices) $63,000,000; materials and supplies (due to increases in prices) $111,000,000; wages, $135,000,000; giving a total of $406,500,000.

Furthermore, while other industries have been increasing their prices to offset advances in wages and other expenses the railways have been suffering from a reduction of their rates. Their average revenue per ton mile in the first six months of 1937 was 4.8 per cent less than in the first six months of 1936. On the basis of the traffic handled thus far this year this reduction of revenue per ton-mile has been making a difference of more than $150,000,000 in their annual freight revenue. But these facts are far less significant than the change that has occurred in the relationship between railway rates and commodities prices since 1930. In June, 1937, the average wholesale price of all commodities was slightly higher than in June, 1930. On the other hand, average freight revenue per ton per mile in the first half of 1930 was 14 per cent higher than in the first half of 1937. The 14 per cent advance in average revenue per ton-mile that would be required to make it as high compared with commodity prices as in 1930, would, on the basis of present traffic, increase railway freight earnings by about $500,000,000 a year. An advance of about this much would be required merely to increase freight earnings enough to offset the increases in operating expenses and taxes already mentioned that have occurred within the last two years.

It will be said that a horizontal advance in rates would cause a diversion of traffic from the railways to other carriers. How large this diversion would be is purely conjectural and would depend principally upon how large the advance in rates was and upon the commodities and conditions to which it was applied. It is quite plain, however, that a substantial general advance in railway rates is imperatively needed, and that because of the decline of rates since 1930 and of the advances in commodity prices and other economic changes that have occurred since the bottom of the depression, it is fully justifiable.

Equipment Orders Lag

Domestic orders for 8 locomotives and 1,195 freight cars reported in the issues of *Railway Age* for September (October 2 included) constitute a considerable decrease when compared with the 24 locomotives and 3,100 freight cars reported for September, 1936. No passenger train car orders were placed during September of either year. Upon comparison with the previous month, September orders reveal also a current slackening in buying tempo, falling well below August's record of 39 locomotives and somewhat short of the 1,490 freight and one passenger-train car ordered during that month. The Canadian market was entirely inactive during September.

September orders for 8 locomotives—7 Diesel-electric and one steam—carry the total for the year thus far to 278 units, which is over 50 per cent greater than any of the 12-month totals of 1931 to 1935, inclusive. At the end of the month there were also inquiries outstanding for, or contemplated purchases of, 3 steam and 2 Diesel-electric locomotives. In the export field, the South African Railways & Harbours and the Central of Brazil are contemplating sizeable motive power purchases.

By the addition of the 1,195 freight cars ordered during the month, the total in this category for the year thus far, or 47,805* cars, has pushed past the year-total of 1930, as well as each of the totals of 1931 to 1935, inclusive. In addition, inquiries are outstanding for, or purchase contemplated of 467 freight cars from domestic buyers and 340 cars by foreign carriers.

The passenger-train car total for the nine-months remains at 471 cars, as no orders were recorded in September. This total, nevertheless, exceeds the 12-month figure for any year since 1930. Furthermore, at the end of the month domestic buyers contemplated the purchase of 56 passenger-train cars.

The steel rail market saw heavier buying during September than any month since January. The total of 18,400 tons placed on order during the month carries the nine months' total for the year to 91,917 tons.

Is There a Need For Employee Education?

How many railroad employees have a background of sound knowledge of the industry so that they can distinguish the true from the false in current reports of developments? Precious few, we fear, if the bombardment of half-truths and mis-statements to which they are subjected by a section of the labor press and by some labor leaders is any criterion. And if railroad employees, generally speaking, have no background for critical judgment of the reports current about the railroad industry, how can it be expected that the general public, with much less bread-and-butter interest in the railroads, can have such a background? With the railroads as deeply involved with the government as they are, how can they hope for anything approaching fair treatment unless they have the backing of an informed public opinion?

Just as an example, recently in a statement for the newspapers in defense of the operating unions' wage demands, President A. F. Whitney of the Brotherhood of Railroad Trainmen cited the cumulative increase in

* Total revised to conform with correction published in the *Railway Age* for September 18, page 389, noting erroneous inclusion of 1,000 freight cars in total figure for July.

car loadings this year over last year. Such a figure is utterly without meaning, of course, because freight rates were reduced at the beginning of the year, and it is not statistics of cars loaded, but dollars and cents of revenue which the railroads need to pay wages. But how many railroad employees realize this? (Incidentally, whenever we get blue about the railroad situation, we always read "Labor," because there all we see regarding traffic and earnings is the favorable news. If it isn't favorable, it doesn't get printed.)

The answer to this situation does not lie, we believe, in counter-propaganda—because it does not cure an uncritical mind to feed it with more *ex parte* statements. The mind receptive to the propaganda of the labor press—"watered stock," "scale down the debt," with the capitalist pictured as a bloated vulgarian bedecked in diamonds and a plug hat—such a mind would not be receptive to statements by railroad management anyhow. Rather, the railroads need at least a nucleus of employees who are so well informed that they are immune to partisan propaganda from any source—employees who by their knowledge of railway economics, finance and statistics can detect truth from falsehood and the significant from the insignificant. Can the lay public be expected to understand railroad problems better than men actually engaged in railroad work?

Employees will not get this fundamental education by listening to an occasional speech, however informative it may be, because genuine education requires some effort on the part of the person who is being educated. That is to say, it requires a system which encourages retention and utilization of information by those before whom it is laid. And for this purpose a night school course in railway economics, following a standard textbook and directed by a conscientious instructor, would probably leave a more lasting impression upon the student than attendance at any number of brilliant addresses where notetaking and examinations were not required.

Public Judges Roads by Employees

The employees who meet the public *are* the railroad, in the public eye. If such persons do not know the fundamentals of their business so that they may interpret it intelligently, plainly public understanding will be inadequate. It may be hard to "teach an old dog new tricks," but certainly in hiring new men the railroads could make the requirement that a satisfactory record of completion of a night-school course in the principles of transportation be supplied. Also, the utilities have offered inducements which have caused their employees to flock to such courses by the hundreds —perhaps thousands even. And yet the railroad involvement with the government—and hence the necessity for widespread public understanding of railroad problems—is far deeper than that of the utilities.

The Example of the A. T. & T.

As far back as 1903 the annual report of the American Telephone & Telegraph Company, which has succeeded in its public relations more thoroughly perhaps than any other public service corporation, had this to say: "The working force, including not only the telephone operators who come in contact with the public, but all those upon whom is imposed the duty of keeping the apparatus in order and of arranging with the public for its use must be thoroughly trained, as well in the practical part of their work as in meeting and dealing properly with the public."*

* Quoted from The Public Opinion Quarterly, October, 1937, Issue.

Flood Economics

Much sentiment and some mock-economics have been spilled over the so-called social implications of the flood problem. We are assured, for example, that, when human life is endangered, no calm and unbiased economic analysis of a flood situation is necessary. We should not consider cost and weigh it against values received in the form of benefits, for human life and suffering are not measured in dollars and cents. This is not, we are assured, a picayune problem of mere money, but is a matter of saving lives and of social rehabilitation.

The basic errors in this viewpoint lie in the assumption that the only way to save the lives of those living in flood areas is through the construction of tremendously costly flood works, and in the further assumption that a nation can go on indefinitely spending public funds for works which do not appreciably increase the national income or wealth. As a matter of fact, money spent for flood control is simply money spent for the privilege of living in and using the low valley areas which nature intended for flood channels. It seems obvious that, if the cost of making these areas safe for human use through the construction of flood works exceeds in amount the economic values which may be thus realized, the sane answer to the problem is to force those who thus endanger their lives to move to higher ground. Suicide is frowned upon, but we permit our blindly optimistic or stubbornly determined countrymen to settle in areas which are known to be subject to flood dangers and then, when the inevitable happens, advise the expenditure of millions of other people's money to make them safe in their dangerous homes.

The most effective and, in many if not most of our flood areas, the least costly method of preventing loss of life and flood damages lies in passing legislation in every state, and through constitutional amendment if necessary, which will give suitable authorities the power to prevent the further encroachment of man on our river valleys, and to condemn and remove from the danger zones both dwellings and other structures which obstruct flow.

Such legislation would require in some regions a coordination of state activities with those of the War Department, which now controls certain of the navigable elements of our so-called navigable streams. . . .

—From an article, "Man versus Floods," by J. K. Finch, in the Political Science Quarterly for September.

Economic Life of Locomotives

Continued case study of the shop-repair costs of locomotives from the eighteenth to the twenty-fifth years of age

By James R. Macken

Supervisor of Costs, Office of the Chief of Motive Power and Rolling Stock, Canadian Pacific

IN the study of the economic life of a Pacific type locomotive which was printed in the July 10 issue of the *Railway Age,* it was necessary, on account of the year in which the locomotive had been placed in service, to end the story just as the locomotive reached the peak of its shop-repair cost, namely, heavy firebox renewals in the fourteenth year, and subsequent lighter shop repairs during the next four years, the combination of which repairs left the accumulative cost figure at its peak. In this further study it is intended to carry the story to the end of the twenty-fifth year of age, not, unfortunately, for the same type of locomotive previously studied, but for an earlier type of the same class for which actual shop costs are available from the eighteenth year onward.

Accurate Study Difficult

At the outset it may be said that the accurate study of the economic life of a locomotive after it has passed 18 to 20 years of age is extremely difficult even when statistical data are available; the reason for this is, primarily, that the locomotive built around 25 years ago is, today, in most cases, economically unsuitable to handle the class of traffic for which it was originally designed and, as a matter of operating expediency, has found its way into secondary services which may mean anything from yard switching to branch-line service, locals, or held against peak movements of one kind or another which place unusual demands upon the locomotive inventory. Under these conditions of service all relation between mileage and shop repair costs is economically lost, but, unfortunately, while the mileage between repairs will decrease, the cost of the classified repair does not lessen, and may increase, for even locomotives tied up can deteriorate more rapidly than in service. Accordingly, the economic performance of the locomotive is difficult to depict statistically without introducing approximations which, in the opinion of the writer, detract considerably from the value of the study.

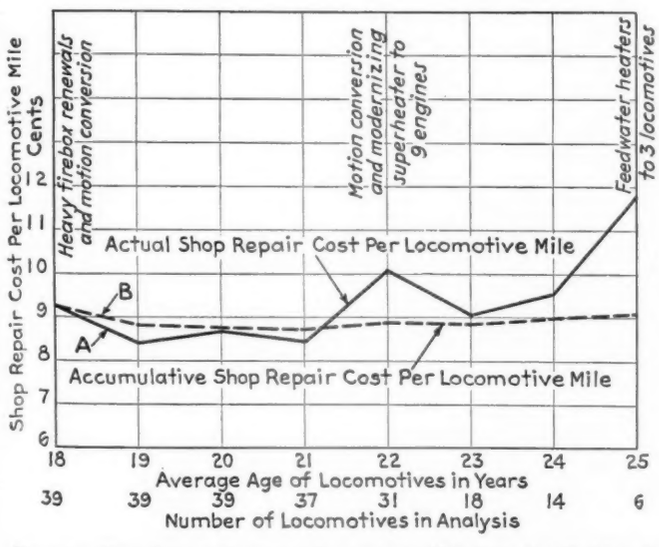

Shop Repair Cost Per Locomotive Mile Cents
Heavy firebox renewals and motion conversion
Motion conversion and modernizing superheater to 9 engines
Feedwater heaters to 3 locomotives
Actual Shop Repair Cost Per Locomotive Mile
Accumulative Shop Repair Cost Per Locomotive Mile
A
B
Average Age of Locomotives in Years
Number of Locomotives in Analysis
39 39 39 37 31 18 14 6

Chart 1—Shop Repair Costs per Locomotive Mile from the Eighteenth to the Twenty-fifth Year

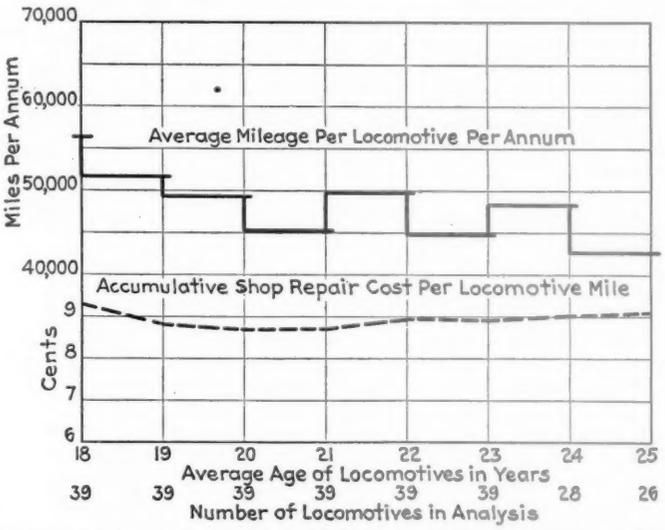

Miles Per Annum
Average Mileage Per Locomotive Per Annum
Accumulative Shop Repair Cost Per Locomotive Mile
Cents
Average Age of Locomotives in Years
Number of Locomotives in Analysis
39 39 39 39 39 39 28 26

Chart 2—Average Annual Mileage from the Eighteenth to the Twenty-fifth Year

Between the years 1906 and 1914 the Canadian Pacific placed in service 39 Pacific type passenger locomotives. These were 4-6-2 type, 32,000 tractive force, 200 lb. steam pressure, 75 in. driving wheels, 142,000 lb. on drivers and 226,000 lb. total weight with 22½ in. x 28 in. cylinders, equipped with Vaughn-Horsey superheaters. It is regrettable that the whole 39 locomotives were not placed in service within one or two years instead of over a period of eight years, but there are a sufficient number of these locomotives operating today to enable a complete study of shop costs to be made between the eighteenth and twenty-fifth year of age. Statistical records prior to the year 1919 have been destroyed.

Anticipated Requirements

It is to the lasting credit of the mechanical officers who designed these locomotives some 31 years ago that they incorporated in their design an anticipation of the probable operating requirements on the Eastern Lines of the Canadian Pacific which made it possible to utilize

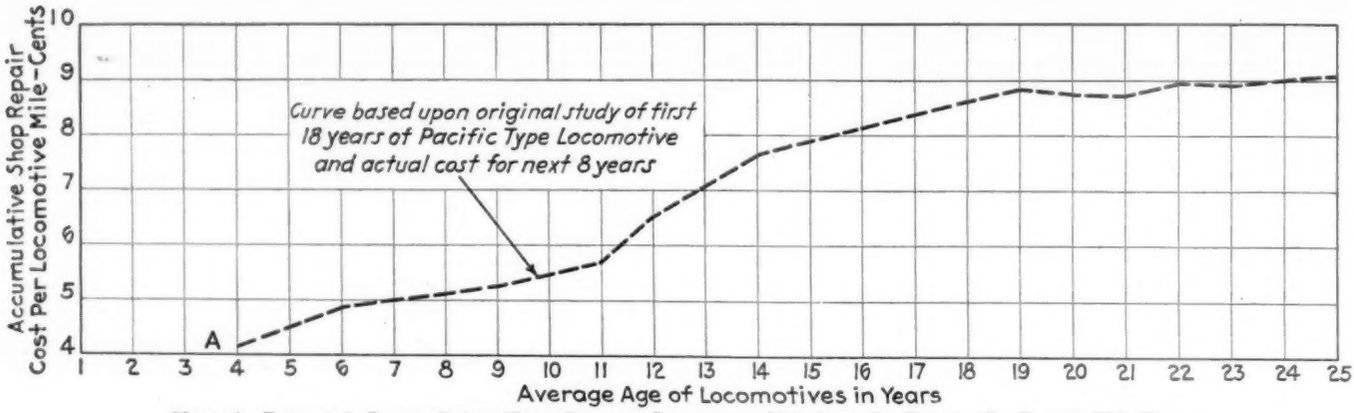

Accumulative Shop Repair Cost Per Locomotive Mile-Cents
Curve based upon original study of first 18 years of Pacific Type Locomotive and actual cost for next 8 years
A
Average Age of Locomotives in Years

Chart 4—Estimated Accumulative Shop Cost per Locomotive Mile from the First to the Twenty-fifth Year

these locomotives to economic advantage during the extraordinary demands made upon motive power during the world war, during the recession in railway business in the years 1921-1922, during the tremendous increase in business ending about 1930 and during the tremendous decrease in business between 1931 and 1934.

It will, therefore, be understood that this study is made of a class of locomotive which has shown a high degree of utilization during all its life and the economic performance shown will not even be approached by any other class of locomotive built about the same time and passing into any one of the secondary services notated above, either before or around the twenty-fifth year of its life.

Chart No. 1—Curve *A* shows the shop repair cost for each year between the eighteenth and the twenty-fifth year of age. The high cost shown for the eighteenth year is explained by heavy firebox renewals and extensive changes to motion gear. This is a feature of all aging locomotives that an effort is always made to restore economic efficiency by changes in design or additions which may mean changes in motions, modernizing superheaters, application of feedwater heaters, etc. The resultant economy will be to a large extent dependent upon the utilization still possible but if these extra expenditures are unable to hold the locomotive in first line service the cost trend will continue upward, and steeply at that.

Curve B is an accumulative cost. This, of course, is not statistically correct as it is necessary to start at the nineteenth year owing to the absence of data prior to the eighteenth year. Relatively, however, this curve correctly indicates the trend. At the foot of this chart is shown the number of locomotives in the analysis. Unfortunately the number rapidly decreases, explained by retirements, replacement of boilers and insufficient age.

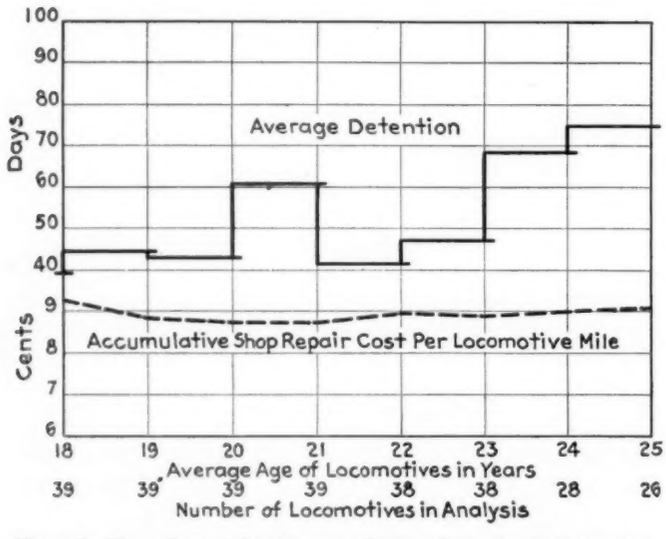


Chart 3—Time Out of Service per Annum from the Eighteenth to the Twenty-fifth Year

Chart No. 2—This chart shows the average mileage per annum plotted against the accumulative shop repair cost. The trend is definitely downward and as the study lies within the full business years of 1926-1929, as well as the poor business years of 1932-1934, the influence which the business recession had on these figures is largely offset. The number of engines analysed here is higher than in the cost Chart No. 1, as classified repairs do not fall within calendar years but are as close to calendar year of age as is possible.

Chart No. 3—This is a detention curve. By detention is meant any withholding from service for any cause. This may mean laid up serviceable, held for repairs when required, or held awaiting decision as to future disposition. Here again the number of locomotives analysed is much greater than those analysed for the cost curve, and for the same reason. There is no mistaking the trend of detention which probably has been influenced by the third reason notated above.

Chart No. 4—This curve attempts to link up the study of July 10, which ended at the eighteenth year of age, with this present study. There is no claim for statistical accuracy for this curve. Unfortunately the records for the class of locomotive now studied were destroyed for the years preceding 1919. The curve would probably lie lower down on the scale, but the trend would be relatively as shown.

These studies may be accepted as reflecting actual cost performance. They may assist in the determination of what period in the economic life of a locomotive it is most profitable to discontinue repairs and retire the unit.

"Water Works Manual."—This is the title of a 120-page, illustrated book recently issued by the Youngstown, Sheet & Tube Company, Youngstown, Ohio. While devoted primarily to this company's special wrapped and lined steel water mains, the manual contains a large amount of technical information on the design, construction and maintenance of water mains. The manual has been issued in loose-leaf form, with permanent binder, to facilitate the addition of pertinent facts on various types of pipe, fittings, laying methods, and other data, which additions will be sent out from time to time. It is featured by tables and charts containing basic hydraulic information and engineering data used in water main flow capacity and pipe line computations.

Use Sand Boxes to Place Long, Heavy Spans

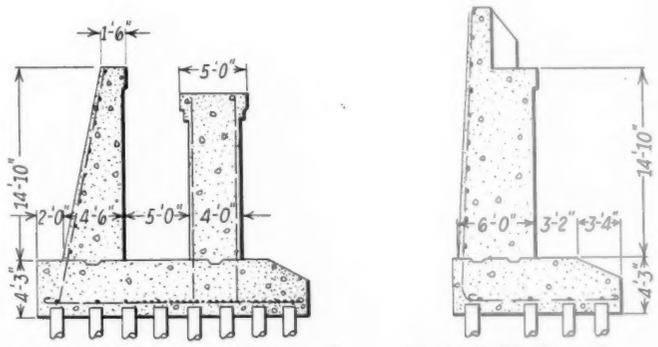
Sharp skew of grade separation that carries Milwaukee tracks over Waukegan road near Chicago required girders 142 ft. long

TWO of the longest plate girders ever used in a railroad bridge are the outstanding elements in a grade separation structure that carries the double-track main line of the Chicago, Milwaukee, St. Paul & Pacific over Waukegan road near Glenview, Ill. These girders are 142 ft. 2 in. long, out to out, have a maximum depth of 12 ft. 11 in. over the rivet heads and weigh 121 tons each. Shipped, one at a time from Ambridge, Pa., on two Pennsylvania well cars having a load-limit capacity of 230,000 lb. each (with an idler car between), the loaded height, 17 ft. 6 in. above top of rail, was such as to require the use of a circuitous route to insure adequate headroom. In addition, shipping instructions limited the speed to from 2 to 5 miles an hour in certain locations, with a maximum speed of 25 miles per hour. Hoisting equipment was entirely dispensed with in the erection of the girders, which were slid laterally from the cars to sand boxes of unique design, by means of which they were lowered 11½ ft. to position on the bearings.

Eliminates Busy Grade Crossing

The crossing involved is located 17 miles north of Chicago on the double-track main line of the railroad to Milwaukee, the Twin Cities and the Pacific coast. In addition to a heavy freight traffic, this line handles some 44 passenger trains daily, including the Hiawatha steam streamliner and other fast trains. The highway involved is U. S. 42A, the principal route between Chicago and Milwaukee, which has a 40-ft. four-lane pavement for long distances north and south of the crossing. Because of the heavy traffic on both the railway and the highway and the 20 deg. 13 min. angle of the intersection, this crossing has been the scene of many accidents.

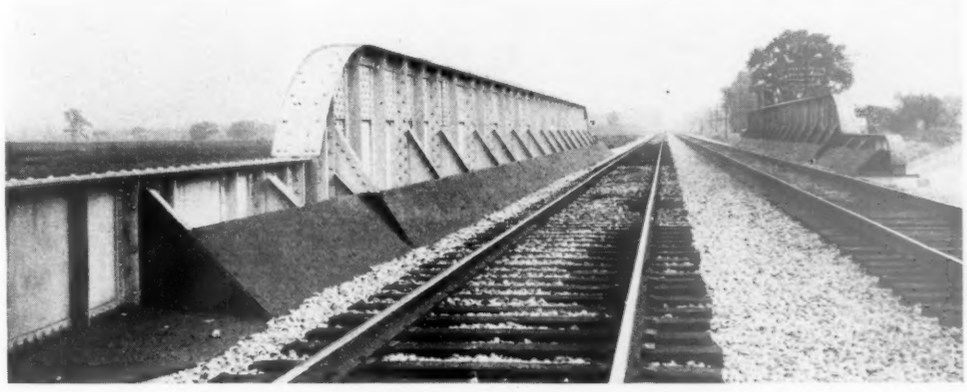
The separation structure accommodates a roadway, 41 ft. 6 in. wide, between curbs, and two 5-ft. sidewalks, but inasmuch as a practical design demanded a three-span bridge, and the piers for the intermediate supports, set 9 in. back of the curbs, had to be four feet wide, the distance, face to face of abutments, perpendicular to the axis of the highway, is 61 ft. However, owing to the acute angle of the crossing, the span lengths, parallel with the railroad, are 136 ft. for the main span and 26 ft. ⅝ in. for the side spans, center to center of bearings. The minimum headroom above the pavement is 14 ft., which, plus a depth of 4½ ft. for the railroad deck, demanded a separation of grades totaling 18½ ft., top of pavement to base of rail. Of this total, 3 ft. was obtained by raising the track grade, and the balance



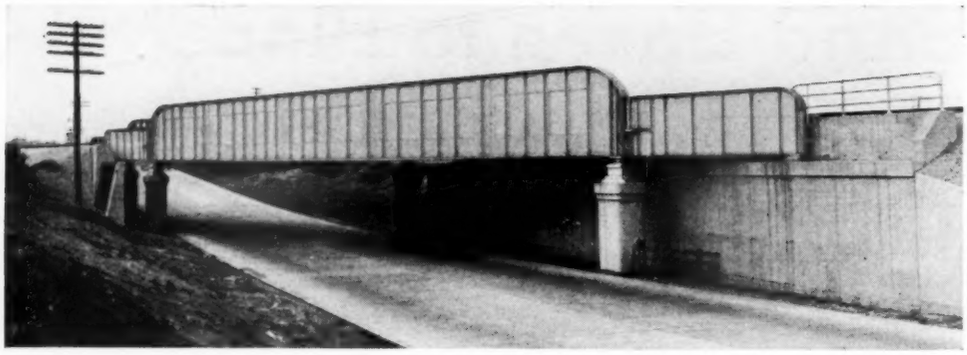
Two Abutment Sections

by depressing the highway. The ground at the site is practically level.

The two lines of girders are spaced 32 ft. center to center, affording slightly more than standard side clearance with tracks placed 14 ft. center to center. At this spacing, the skew of the crossing results in a total length of structure, between end bearings on the two sides, of 275 ft., parallel with the tracks. The floor members, consisting in the main of transverse beams spaced about



A Track View of the Structure over Waukegan Road

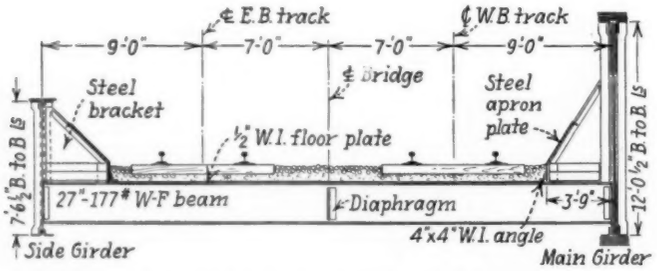


It Required a Girder Span of 136 Ft. to Cross a 40-Ft. Highway

2 ft. centers, are supported from the superstructure at both ends for a bridge length of only 101 ft.; for the remaining 174 ft. one end of all floor members rests on the abutments.

The Main Girders

The main span girders have 5/8-in. webs 144 in. deep, and the maximum flange sections consist of two 8-in. by 8-in. by 1 1/8-in. angles, two side plates, 36 in. by 7/8-in., and five cover plates 21 in. wide with a total thickness of 4 in. The greatest lengths of the flange angles and side plates between splices are of the order of 100 ft. and 112



A Typical Section of the Superstructure

ft., respectively, so that the splices all occur in zones of limited bending moment, a novel feature in this connection being the use of butt welds for the splicing of the top flange angles. All of the flange material, the webs and the web splice plates are of silicon steel.

The end spans have a length of 26 ft. 5/8 in. center to center of substructure bearings, but because the girders of these spans are supported at their inner ends on bracket extensions of the main girders, the end span girders have a length of only 23 ft. 11 5/8 in. center to center of supports. As the depth, 7 ft. 6 in., back to back of flange angles, which was adopted to avoid too great a disparity between the depths of the center and side span girders, gives a high ratio of depth to length, the flange requirements of these girders are moderate. The single cover plate, on the top flange only, is 3/8 in. thick.

Beam and Plate Floor

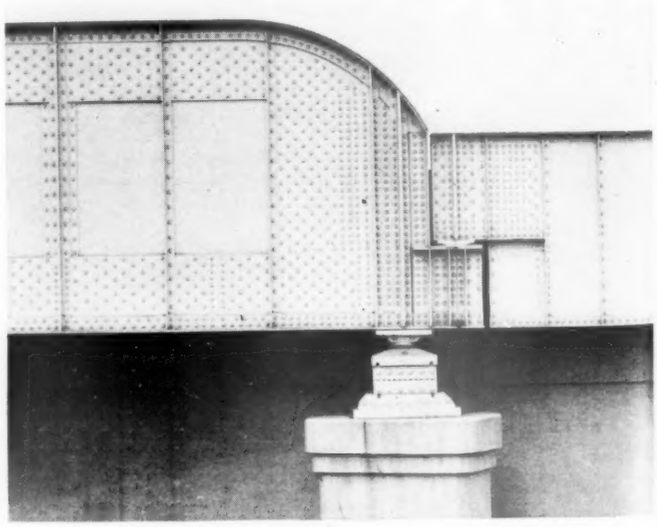
The floor of the bridge is ballasted, and to obtain a minimum depth and weight it consists of metal deck plates supported on transverse beams spaced about two feet, center to center, except in the acute angles at the two ends where a combination of floor beams and stringers was introduced. The beams are all wide flange CB sections, 27 in. deep, and weighing 177 lb. per ft., where they span the full distance between girders. Lighter beams of the same depth were used for the shorter spans supported at one end on the abutment bolsters. The beams frame into the girders, and brackets are introduced at the ends of every fourth or fifth beam.

The plate construction consists of 1/2-in. wrought iron plates on the beams for the distance between brackets, and 3/8-in. steel plates extending up the faces of the brackets for a distance of 3 ft. 9 in., the floor plates and the apron or side plates being connected by means of 4-in. by 4-in. wrought iron angles. The plates were riveted to the wrought iron angles, and the apron plates were riveted to the flange angles of the brackets but the wrought iron floor plates were spot-welded to the top flanges of the beams through 1 1/16-in. holes in the plates at 6-in. centers. In addition, continuous butt welds were applied at all joints between plates.

After erection, the floor and apron plates were given two primer coats of an acid-resisting material at intervals of about 48 hours, each coat being about 1/16 in. thick; and 48 hours after the second coat was in place, they were covered with a finishing coat. The deck is sloped to conform with a track grade of 0.5 per cent, thus providing drainage over the back wall at the down grade abutment. Curved extensions of the floor plates are carried over the back walls of both abutments.

Bearing Details

The superstructure is designed to expand as a unit from fixed bearings at one abutment, with segmental roller bearings under the ends of the main girders on the piers, and sliding bearings on the other abutment. On account of the sharp skew, the girders on the two sides



Main Girder Bearing and Method Supporting Side Girder on a Bracket Extension of the Main Girder

of the bridge are offset by a distance of about 87 ft., thus resulting in an appreciable difference in the deflection of the two main girders at points directly opposite. To accommodate the structure to the warping effect thus introduced, the contact faces between the upper and lower shoes under these girders were given spherical surfaces, with a 2-ft. radius on the convex top of the lower shoe and a 2-ft. 4-in. radius on the concave bottom of the upper shoe.

The sub-structure is of concrete on pile foundations, the noteworthy feature being the length of the abutments, 146 ft., exclusive of the wing walls. Of a cantilever design, the walls have a maximum thickness of 6 ft., while the footings have pronounced toe extensions. The intermediate supports for the superstructure consist of four piers, with shafts four feet by six feet in plan increased by one foot in both directions at the top by copings. The corners of both the shafts and the copings are rounded. At the location of each of these piers, the toe of the abutment footing is extended to provide a common support for both.

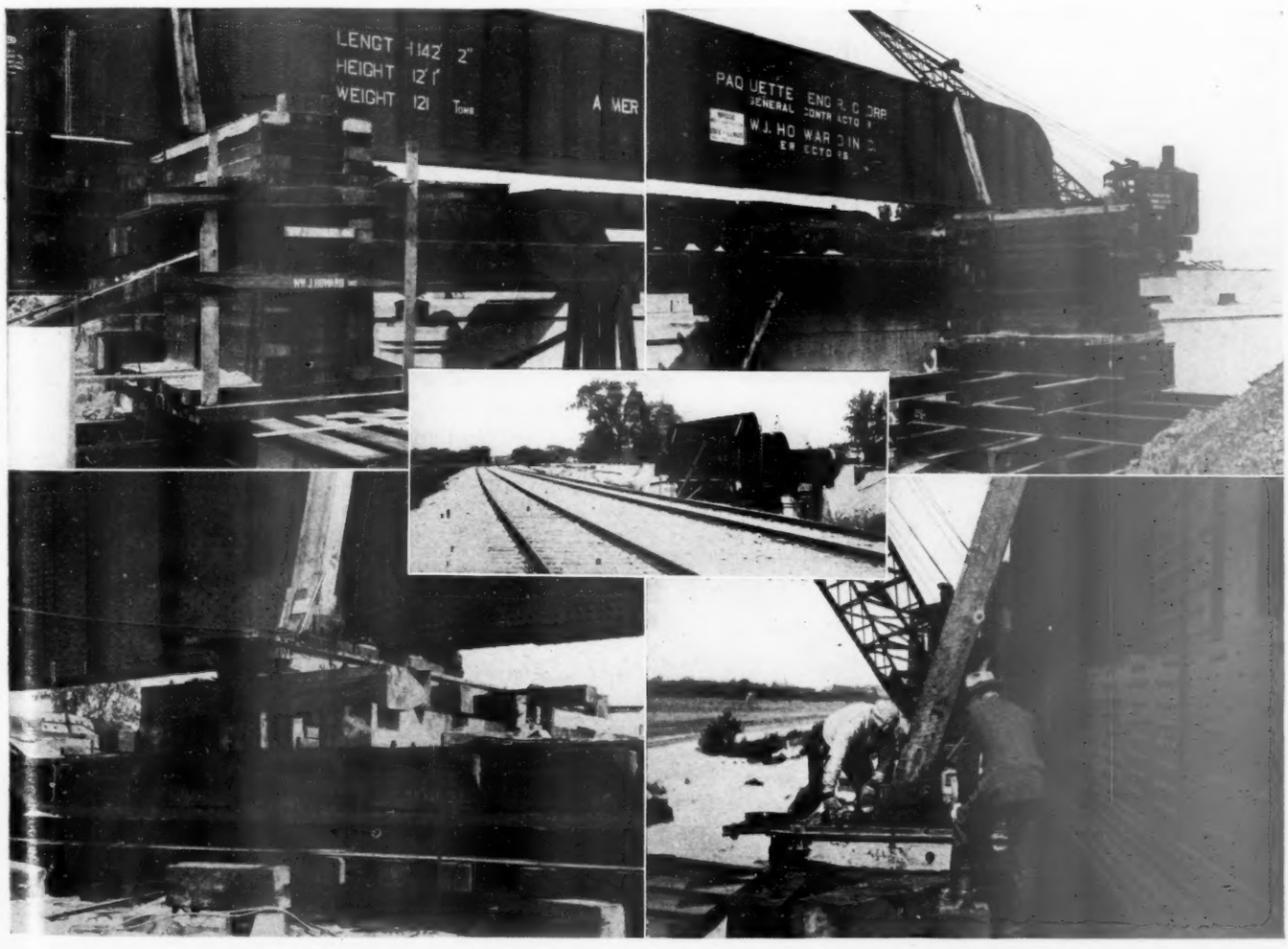
Unusual Erection Method

Traffic was routed over temporary run-around tracks with 1-deg. 30-min. curves, as local conditions permitted their construction at a minimum cost, and the depth of excavation required, the unusual length of the structure and the nature of the superstructure were such that construction under traffic would have involved almost unsurmountable difficulties. To facilitate erection of the superstructure the contractors built a construction trestle along the railroad axis of the bridge, using frame bents on mud sills to support a deck in which three lines of the 27-in. beam of the floor system were used as stringers. However, because of the weight of the two 142-ft. girders, the amount of lateral movement necessary and other difficulties imposed, it was concluded that any plan for their erection that entailed the use of hoisting equipment would be unduly expensive if adequate precautions were taken to avoid accidents. Accordingly, the trestle was used solely for the delivery of these girders on cars opposite their positions in the bridge.

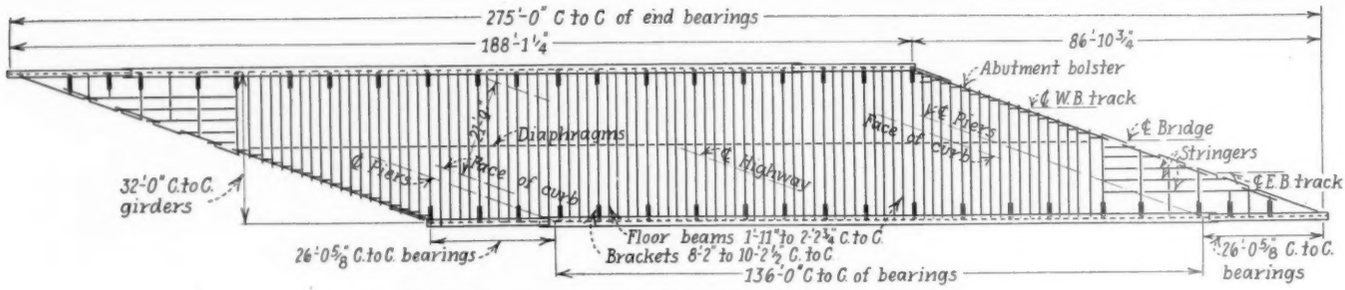
The contractor erected, in the line of the final position of each girder, two grillages made of steel floor beams to serve as the supports for sand boxes having inside widths and lengths of 3 ft. and 11 ft., respectively, the long dimension being transverse to the longitudinal axis of the girders. These sand boxes were so located that they would be in line, transversely, with the two bolsters on which the girders were supported on the well cars, when these cars were so spotted that the end bearings of the girders were opposite the centers of the two piers on which they were to rest.

Description of the Sand Boxes

These boxes, which were constructed after the design had been subjected to a test investigation at Armour Institute, Chicago, were made with 8-in. by 16-in. stringers,



Above—Two Views of the Sand Boxes and Grillage Supports. Below—Two Views Showing Girder Support on Car, with Sliding Plate in Place Under the Bolster. In the Center—A General View, Showing the Runaround Tracks

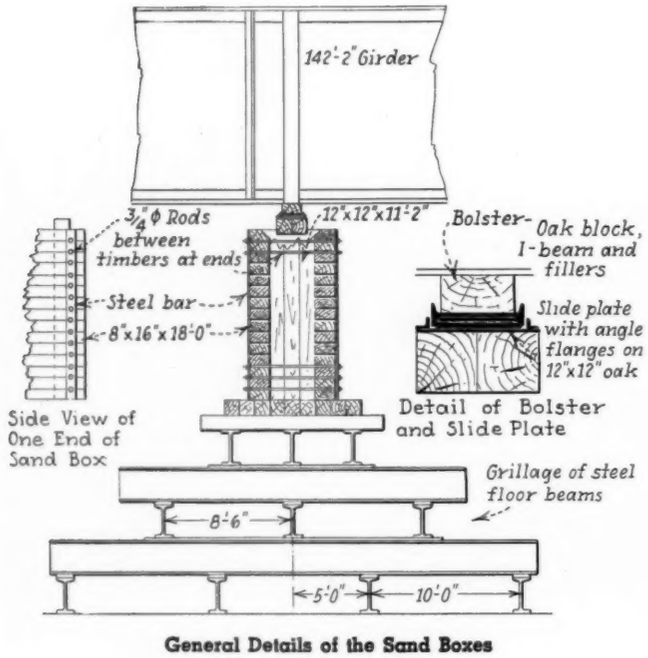


Sketch Plan of the Bridge, Showing Effect of the Sharp Skew

laid flat, for the sides, and three 12-in. by 12-in. pieces placed vertically for the ends. The side members were supported against the lateral sand pressure by ¾-in. tie rods laid crosswise between the tiers of stringers, notches having been cut in the faces of the sticks for this purpose. These rods were tightened against steel straps placed vertically on the outside near the ends of the boxes. This construction had a sufficient height so that with its top at car floor level, it was possible to lower the girder a distance of 11½ ft. Each box contained 15 cu. yd. of sand, the top surface of which served as the support for two heavy oak timbers on which the girder was placed for lowering it to position.

As each girder was delivered, it was spotted on the trestle opposite its position in the structure and then jacked off its bearings sufficiently to permit steel skid plates, 20 in. wide to be inserted under the bolsters, these skid plates extending from the car to the oak timbers on top of the sand boxes. The bolsters were steel placed with the webs horizontal and had 1¼ in. plates welded to the flanges on the under sides that served as the points of bearing on the skid plate as the girder was jacked transversely to position over the sand boxes.

The lowering of the girders was done by digging the sand out of the tops of the boxes with small shovels until the surface was nearly at the level of the bottoms of the top tiers of 8-in. by 16-in. side timbers. The nuts on the upper tie rods were then turned off and the timbers removed by sliding them out laterally. This operation was repeated tier after tier until the girders rested on the bearings.



General Details of the Sand Boxes

This project, costing $260,000, was carried out with federal funds under the joint supervision of the Illinois Highways Commission and the railroad. The plans were prepared under the direction of H. J. Hansen, engineer of design, with general supervision by G. Tornes, superintendent of bridges and buildings, and R. J. Middleton, assistant chief engineer of the Chicago, Milwaukee, St. Paul & Pacific. The work was done under a general contract by the Paquette Engineering Corporation, Chicago, the superstructure being fabricated by the American Bridge Company and erected by William J. Howard, Inc., of Chicago. Mr. Howard of this company developed the plan for the setting of the two heavy girders by means of sand boxes.

6,500 Honor Jeffers at "Loyalty Dinner"

"TO commemorate his achievement of a life-long ambition," approximately 6,500 employees and guests of the Union Pacific gathered at a dinner given in honor of William M. Jeffers, new president of the road, at Omaha, Neb., on the evening of October 2. Sponsored by 21 "Old Timers" clubs of the Union Pacific, and their ladies' auxiliaries, in which membership is limited to employees and wives of employees with 20 years or more service, the dinner was held at the Ak-Sar-Ben Coliseum, which, although the largest available hall, was not sufficiently large to accommodate all those who wished to attend. In attendance were nearly a hundred special guests and speakers, including railroad, business and labor executives and public leaders, many with their wives, and 2,640 members of the Old Timers clubs and their ladies' auxiliaries while an additional 3,760 employees looked on from balcony seats. For the benefit of employees unable to attend and the public at large, a portion of the speaking program was broadcast over a national hook-up.

The roster of speakers, in addition to Mr. Jeffers, included James A. Farley, postmaster general of the United States; Carl R. Gray, retiring president of the Union Pacific; W. A. Harriman, chairman of the board; George M. Harrison, chairman of the Railway Labor Executives' Association and president of the Brotherhood of Railway and Steamship Clerks, Freight Handlers, Express and Station Employees; A. O. Wharton, president of the International Association of Machinists; and J. G. Ormond, president of the General committee of the Old Timers clubs. Congratulatory remarks were also made by Mayor Dan B. Butler of Omaha; Governor R. L. Cochran of Nebraska; Governor Henry H. Blood of Utah; United States Senator Edward C. Johnson of Colorado; and Governor Leslie A. Miller of Wyoming. James T. Keefe, attorney for

the Union Pacific at North Platte, Neb., was toastmaster.

Primarily the purpose of the dinner was to honor Mr. Jeffers (and Mrs. Jeffers) on the occasion of his election to the presidency, while secondarily it was accepted as an opportunity for representatives of both the management and the employees to voice expressions of good will, tolerance and understanding. Practically every speaker mentioned this subject, the most of them emphasized it. In fact, the cover of the menu carried the inscription, "loyalty dinner." Emphasis was also placed on the significance of Mr. Jeffers' rise from obscurity, and his achievement was referred to by Mr. Jeffers as the "culmination of a call boy's dream."

Co-operation Pledged

Speaking first, Mr. Ormond said that, as president of the Union Pacific, Mr. Jeffers would have the wholehearted support and co-operation of the Old Timers clubs, and pointed out that, due largely to Mr. Jeffers' sense of fairness, an amicable relationship exists between the management of the carrier and its employees. Reiterating this sentiment, Mr. Wharton declared that the management-labor set-up on the U. P. presents an outstanding example of "democratic government" and said that all that is necessary to accomplish this end is the exercise of tolerance and patience by both parties.

Declaring that Mr. Jeffers has "always been on hand to do the right thing" in dealings with the employees, Mr. Harrison referred to the U. P. as a "great human institution" and told Mr. Jeffers that he has the loyal support of its employees. He named the employees, investors and management as being the three elements of which the railroads are composed and declared that the employees want only a "square deal." Postmaster General Farley, referring to Mr. Jeffers as a "real fellow and a real American," paid high tribute to both the latter and Mr. Gray.

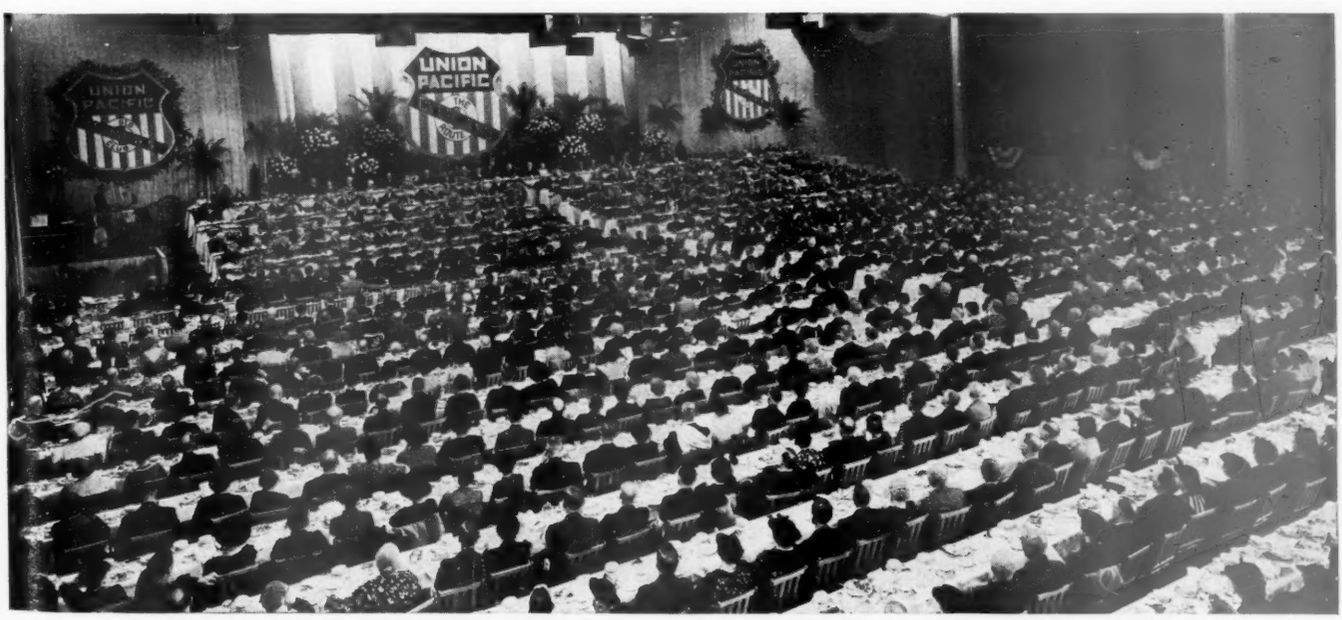
Mr. Gray, speaking next, told his listeners that the 18 years which he spent as head of the Union Pacific were the "happiest and most zestful of my life," but sounded a note of regret when he contrasted his position with that of Mr. Jeffers on becoming president. "That was 18 years ago," he said. "It was almost a tragic thing. I came here unknown. I had never ridden a mile over the Union Pacific. When I went to my office in headquarters the first morning I knew there was a feeling of apprehension. That will never happen again on this railroad."

Mr. Harriman, referring to the meeting as an "epoch making" gathering, emphasized the fact that this is the only country where an achievement such as that of Mr. Jeffers is possible. He drew a parallel between the career of his father, the late E. H. Harriman, and that of the new head of the U. P., and voiced the opinion that the senior Harriman would have approved of Mr. Jeffers' election to the presidency. He said that management and labor must join in a common appreciation and understanding of each other's problems and declared that meetings such as this point the way to industrial peace and understanding.

Speaking last, Mr. Jeffers described America as the land of opportunity, and said that ambition must be "flanked with the quality of keeping wholeheartedly on the job." He spoke proudly of the fact that the U. P. has never had a labor grievance that has not been settled on the railroad, and declared that railroading is a profession that cannot be learned at college. It is true, he said, that the railroads need technical men, but of supreme importance is an appreciation of the need for "human engineering."

The dinner was conducted amid colorful and impressive surroundings. The large hall, brilliantly lighted by flood lamps, was decorated with flags and enlargements of the Union Pacific emblem, and at the speakers' end was banked with flowers and ferns. The seating was so arranged that those at the speakers' table, together with the guests, faced toward the other diners while the latter sat facing the speakers' table.

Hostesses of Union Pacific trains showed the guests to their seats, while 100 uniformed passenger conductors and brakemen acted as ushers for members of the Old Timers clubs. The food was served by about 400 younger employees of the railroad in accordance with signals sounded by the bugler. Music was furnished by the employees' band from Ogden, Utah, and by a local orchestra, and the program included a number of vocal solos.



Looking Toward the Speakers Table. This View of the Banquet Hall Shows Less Than Half of Those Present

Wage Boost for Train Employees

Engine crews share in 6.6 per cent rise which will increase railroads' payroll more than $35,000,000

AN increase of 44 cents a day in wages for members of the five transportation brotherhoods, effective October 1, was agreed upon by 86 carriers and the 5 brotherhoods at Chicago on October 3. The agreement also provides for adjustments in mileage rates, daily earnings minima, monthly rates and guarantees. The monthly rates of certain dining car stewards and yardmasters will also be increased $13.20.

The increase of 44 cents a day is expected to add an average of 6.6 per cent to the workers' annual earnings. The agreement will affect approximately 250,000 workers and will add approximately $35,000,000 to the railroads' annual payroll.

The agreement is the result of extended negotiations over a demand for a 20 per cent increase in wages. On February 23, the five brotherhoods voted to demand this increase. Demands were made by each brotherhood on each railroad but at the same time the brotherhoods requested that the matter be handled on a national scale rather than individually. The railroads asked that the brotherhoods revise certain rules, such as starting time regulations for yard crews, daily guaranteed minimum earnings of workers and minimum train crews.

Because of the "attitude of the railroads towards the request of the five brotherhoods to set a date for a national conference," a strike vote was decided upon by the unions on June 22, as the next step. Votes of members tabulated on July 26 were announced as favoring a strike, following which negotiations were begun between the Carriers' Conference committee and heads of the five brotherhoods at Chicago on August 11.

Negotiations Failed

These negotiations broke down on August 25 and the threat of a strike entered the picture for the first time when the unions issued a statement at Chicago saying that they "were left no alternative other than to set the day and hour for the men to withdraw from the service." This was the first time in the history of national negotiations between the railroads and their employees that representatives of the latter have entered a conference with an affirmative strike ballot to back up their demands.

Both sides then advised the National Mediation Board of the failure of negotiations. It, in turn, offered its services, which both parties accepted. On August 28, Dr. Leiserson began mediation at Chicago.

The agreement is signed by the 14 members of the Carriers' Conference committee, representing 86 railroads, and by the representatives of the 5 brotherhoods. In announcing the settlement Dr. Leiserson commended both parties for their co-operation and readiness to make available to him and his board financial and wage data, facts, statistics and other information, on the basis of which the merits of the contentions of the parties could be evaluated. "The spirit in which both sides to the controversy receded from their original positions as the

The Carriers' Conference Committee and the Mediator

Left to right, seated: R. C. Parsons, superintendent of transportation and director of personnel, Louisville & Nashville; R. W. Brown, vice-president, Reading-Jersey Central Lines; H. A. Enochs, chairman of the committee and chief of personnel, Pennsylvania; Dr. W. M. Leiserson, member, National Mediation Board; J. W. Smith, vice-president and general manager, Boston & Maine; J. G. Walber, vice-president, personnel, New York Central; and F. L. Thompson, vice-president, Illinois Central.
Standing: E. J. Connors, assistant to executive vice-president, Union Pacific; S. H. Schneider, executive secretary, Association of Western Railways (not a member of the committee); M. L. Long, assistant superintendent, labor and wage bureau, Pennsylvania (not a member of the committee); L. B. McDonald, vice-president and general manager, Southern Pacific, Texas and Louisiana lines; E. J. McClees, executive secretary, Bureau of Information of the Eastern Railways (not a member of the committee); J. H. Aydelott, general manager, Chicago, Burlington & Quincy; and H. D. Barber, assistant to vice-president, Erie.
The following members of the committee are not shown in the photograph: H. E. Stevens, vice-president, Northern Pacific; G. E. Bruch, assistant general manager, Norfolk & Western; C. D. Mackay, assistant vice-president, Southern; J. B. Parrish, assistant vice-president, Chesapeake & Ohio; and H. D. Pollard, receiver, Central of Georgia.

facts were developed was the biggest single factor in arriving at the settlement," he said. "Both parties are to be congratulated on following the orderly processes of the Railway Labor Act instead of engaging in strike talk and setting strike dates, which would have an upsetting effect on an already troubled business situation."

The Agreement

The agreement, in detail, follows:

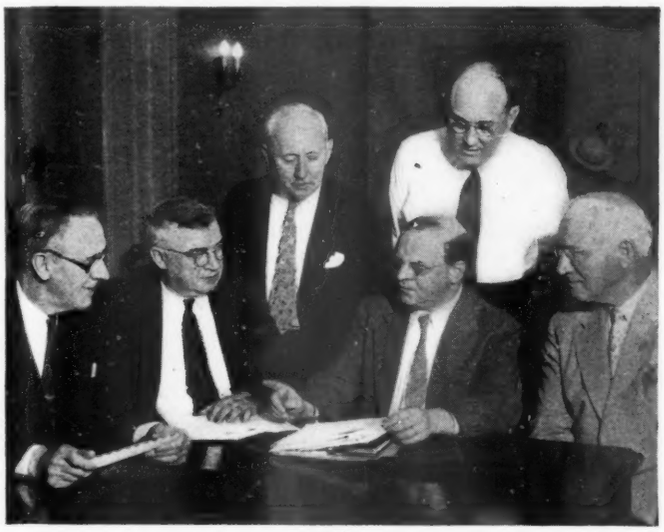
General

1. (a) All basic daily rates of pay will be increased in the amount of 44 cents per day.

(b) Mileage rates shall be determined by dividing the new daily rates by the miles constituting a basic day's work in the respective classes of service.

(c) Daily earnings minima shall be increased forty-four cents.

(d) All arbitraries, miscellaneous rates, or special allowances as provided in the schedules or wage agreements shall be increased under this agreement in proportion to the daily increase herein granted.



Union Chiefs and the Mediator

Left to right, seated: T. C. Cashin, president, Switchmen's Union of North America; Alvaney Johnston, grand chief engineer, Brotherhood of Locomotive Engineers; Dr. William M. Leiserson, member National Mediation Board; and A. F. Whitney, president, Brotherhood of Railroad Trainmen. Standing: D. B. Robertson, president, Brotherhood of Locomotive Firemen and Enginemen, and J. A. Phillips, president, Order of Railway Conductors.

(e) Existing money differentials above existing standard daily rates shall be maintained.

2. (a) Standard monthly rates and money monthly guarantees in passenger service shall be 30 times the new standard daily rate. Other than standard monthly rates and money monthly guarantees shall be so adjusted that differentials existing as of September 30, 1937, shall be preserved.

(b) Existing monthly rates and money monthly guarantees applicable in other than passenger service will be increased in the same proportion as the daily rate for the class of service involved is increased.

Engine Service

3. In local freight service the same differential in excess of through freight rates as now paid shall be maintained.

Dining Car Stewards

4. All monthly rates shall be increased $13.20.

Yardmasters

5. All monthly rates shall be increased $13.20.

6. This agreement is and shall be construed as a separate agreement by and in behalf of each carrier party hereto and each labor organization representing employees as herein before stated; and shall be effective as of October 1, 1937, and shall remain in effect until changed or modified in accordance with the provisions of the Railway Labor Act.

Mileage-Scale Progression Study by I.C.C. Analyst

WASHINGTON, D. C.

THE Bureau of Statistics of the Interstate Commerce Commission has issued a study on "Progression in Freight Rate Mileage Scales" which was made by E. S. Hobbs, a statistical analyst in that bureau. Its title page carries the notation that it is "issued as information," and "has not been considered or adopted by the Interstate Commerce Commission."

The study, an introductory statement by Dr. M. O. Lorenz, director of the Bureau of Statistics, says, "is confined to an analysis of the characteristics of selected scales actually prescribed by the Interstate Commerce Commission but without any attempt to discuss the history or theory of the rate structure." From such analysis there is developed "one standard scheme of progression in the rate for increasing mileage"—this result being achieved from the consolidation of similar schemes separately set up for class and commodity rate scales. In this process, as explained by Dr. Lorenz, all scales examined were first brought to a composite basis by stating the percentage relation of each rate to the 300-mile rate in its own scale. The percentages found in the class rate scale were then combined into one composite set of percentages. Irregularities in this series were smoothed, and from the percentages thus "rectified" a composite class rate scale "can be constructed for any desired level of rates." For example if the 300-mile first class rate is to be $1, all the other rates can be determined by applying such percentages. In following a similar process with respect to commodity rate scales it was found that the composite class rate and the composite commodity rate scales "were so nearly alike in progression that it was deemed advisable to consolidate them" to get the above-mentioned standard scheme of progression.

Example of Standard Scale's Use

"In making use of such a standard mileage scale progression to construct new rate scales in the future," Dr. Lorenz says, "the process might be as follows:

"The evidence in the case presumably would indicate what the level of the rate should be for one or more specified hauls. Assume that between A and B, with a distance of 220 miles, the rate should be 40 cents. This is 40.40 percent of the 220 mile rate in the standard scale. By multiplying each rate in the standard scale by .4040, a complete new scale passing through 40 cents at 220 miles will be obtained. This process could be repeated for each other key rate to be considered in the case. The resulting scales would then be averaged to get the final scale to be prescribed. The resulting progression would not conform exactly to the standard progression but would approximate it as nearly as the conditions set by the evidence would permit."

The study also includes a comparison between the progression in the rate scales as actually found and what would be the progression based solely on the cost of service. No suggestion is made as to the extent to which the cost basis should be followed in the future.

In the main body of his study Mr. Hobbs, employing many tables and a couple of charts, considers in turn the trend toward freight rate mileage scales, the lack of uniform progression in existing scales, characteristics of class and commodity rate mileage scales, class and commodity rate progression as a whole, existing rate scales

compared with a cost scale, progression in carload and l.c.l. rates and suggestions for promoting uniformity.

The mileage scales investigated indicated "a lack of uniformity in the method of projecting the rates throughout the scale of distances, and aside from a lack of common progression in rates on commodities that are similar in transportation characteristics, there is a great diversity of practice in arranging the series of mileage blocks which determine the successive stepping-up of the rate to avoid minute changes in the rate for minor increases in distance." After further discussion and presentation in tables of examples of the foregoing, Mr. Hobbs proceeds to build up for each of the rate territories his "rectified" progression scales. Adjustments made in the actual progression scales to produce the "rectified" ones were to meet that requirement of a smooth progression which postulates that "each successive per cent of increase in the rate, at each 100-mile interval, for example, shall be less than the one immediately preceding, and also at least that the differences between successive per cents of increase shall progress in continuous descending order." For example, in the eastern first class scale, "with no change exceeding five cents, the progression was systematized to the extent of making the difference in per cents of increase in the rate show a descent rather than an ascent at 800 miles."

The same process was followed with respect to first class scales in other territories, and from these results the composite first class scale was evolved. The latter in turn was consolidated with a similarly-devised composite commodity rate scale to produce the standard scheme of progression. A scale projected on the basis of the recommended progression is plotted on a chart along with curves of first class scales in several territories. The "constructed" scale curve lies about midway between the higher Southwestern Zone III scale and the lower Eastern scale. The curves for Western Trunk Line Zone I and Southern scales, while respectively below and above the "constructed" scale curve for distances under 1,000 miles, cling to the latter for hauls beyond 1,100 miles.

The section on costs discusses various elements and uncertainties entering this phase of railway transportation, but does produce data showing that the "progression in freight service costs as a whole on all types of cars runs higher beyond 200 miles than the composite class and commodity rate scale developed earlier in the study. In considering the suggestion that the progression in carload and l.c.l. rate scales should not be related, because of extra costs involved in handling the latter, Mr. Hobbs compares the progression in mileage costs of handling the two classes of traffic. He finds the rates of progression in the two scales of costs "not materially different, indicating a considerable degree of justification for the existing method of relating carload and l.c.l. rates on a percentage basis."

Suggestions for Promoting Uniformity

The study closes with its "Suggestions for Promoting Uniformity" set forth as follows:

"In 35 of the freight rate scales analyzed, only 18 start out with 5-mile blocks, 33 have 10-mile blocks starting at various distances, and at greater distances 31 have 20-mile blocks, 25 have 25-mile blocks, and only 10 have 30-mile blocks. For greater distances 40-mile and 50-mile blocks are customarily used. In the interest of uniformity and facility in obtaining a smooth progression, it is suggested that a 30-mile block be used in lieu of a 25-mile block. The reason for this is that with a given increment in the rate for each mileage block the progression based on the use of 25-mile blocks in combination with blocks of 10 miles or multiples thereof will be irregular unless the increment per block is modified. . . . In lieu of a break in progression in the rate per mile, there appears a systematic progression when 30 miles is substituted for 25 miles. It is possible to systematize the progression in the use of a 25-mile block provided it is preceded by 5-mile steps only, or, if immediately preceded by a 10-mile step, it is followed by a 10-mile or greater step, but no such scale beginning with an initial block of 5 miles was found.

"Uniformity would be promoted if, in constructing new commodity rate scales or revising existing scales, the progression were made to conform to that found in the composite class and commodity rate scale (set up in the study), if the special conditions in the case do not require a different progression."

* * * *

The Peoria Rocket Was Christened on September 8. Among Those Participating in the Ceremonies Are (from left to right) W. H. Burns, General Auditor; W. J. Leahy, Passenger Traffic Manager; J. E. Gorman, Trustee; J. D. Farrington, Chief Operating Officer; and Jean Alice Fleming

July Buying Off 4 Per Cent

EXPENDITURES by the railroads in July for materials and supplies, exclusive of fuel and equipment, were four per cent lower than in June, 1937, and 41 per cent higher than in July, 1936, according to figures which have been compiled by the *Railway Age*. The July total, amounting to approximately $63,673,000, compares with $66,261,000 in June, $64,037,000 in May, $66,684,000 in April and $66,919,000 in March, and reflects declines from the June totals in practically all lines of buying.

July buying brought the total purchases by railroads for materials and supplies, fuel and equipment for the first seven months of 1937 to approximately $714,876,000, or 31 per cent more than in the first seven months of 1936, but 10 per cent less than in the corresponding period in 1930 and 32 per cent less than in the corresponding period in 1929.

Excluding fuel, expenditures for materials and equipment from manufacturers during the first seven months of 1937 totaled approximately $547,930,000, which was 37 per cent more than for the seven months in 1936, but 11 per cent under the corresponding figure for 1930, and 35 per cent under the figure for the first seven months of 1929.

The value of orders placed with builders for new locomotives and cars, exclusive of equipment to be built in railroad shops, was approximately $114,420,000 in the first seven months of 1937, which was 25 per cent higher than the seven months' total of 1936, but 5 per cent lower than in the first seven months of 1930, and 58 per cent lower than the total for the first seven months of 1929.

Purchases of Supplies and Equipment from Manufacturers —7 Months*

	Materials† received from manufacturers (000)	Equipment ordered from manufacturers (000)	Total from manufacturers (000)	Fuel (000)	Total including fuel (000)
1929	$565,946	$277,233	$843,179	$198,654	$1,041,833
1930	492,324	120,622	612,946	186,576	799,522
1931	308,350	24,651	333,001	146,650	479,651
1932	168,100	1,840	169,940	105,400	275,340
1933	139,642	3,967	143,609	99,596	243,205
1934	249,749	58,276	308,025	121,236	429,261
1935	212,900	22,872	235,772	140,650	376,422
1936	303,537	93,628	397,165	148,046	545,211
1937	433,510	114,420	547,930	166,946	714,876

* Subject to revision.
† Includes rail and forest products.

Purchases of Material, Exclusive of Equipment—7 Months*

1937	Fuel (000)	Crossties (000)	Other material (000)	Total (000)	Total less fuel (000)
January	$26,032	$3,898	$46,535	$79,620	$53,588
February	26,160	3,389	45,067	78,508	52,348
March	30,506	4,999	55,646	97,425	66,919
April	19,632	5,132	56,166	86,316	66,684
May	20,473	5,026	53,968	84,510	64,037
June	22,426	6,035	54,422	88,687	66,261
July	21,717	5,863	53,692	85,390	63,673
Seven months	$166,946	$34,342	$365,496	$600,456	$433,510
1936					
January	$21,859	$3,027	$29,656	$55,649	$33,790
February	24,355	2,371	29,146	58,298	33,943
March	22,304	3,312	36,612	66,436	44,132
April	20,626	3,867	39,553	69,550	48,924
May	19,447	4,112	41,859	71,118	51,671
June	19,368	4,149	38,194	65,548	46,180
July	20,087	4,137	38,882	64,984	44,897
Seven months	$148,046	$24,975	$253,902	$451,583	$303,537

* Subject to revision.

Materials and Supplies, Exclusive of Fuel and Equipment, Received in July

	July 1936	July 1937	Per cent increase
A. C. & Y.	$22,037	$13,893	-37
Alton	325,423	478,713	47
Alton & Sou.	11,031	15,262	38
Ann Arbor	35,055	44,393	27
A. T. & S. F.	2,002,632	3,981,801	99
A. B. & C.	53,806	72,520	35
A. C. L.	405,163	750,306	85
B. & O.	2,321,626	3,185,000	37
Bang. & Aroos.	43,809	75,437	72
B. & M.	444,401	422,967	-5
Camb. & Ind.	8,369	7,171	-14
Cent. of Ga.	154,736	300,647	94
Cent. of N. J.	250,940	325,660	30
Cent. Vt.	101,723	80,603	-21
C. & W. C.	36,316	33,602	-8
C. & E. I.	104,061	223,360	115
C. & N. W.	1,492,584	1,815,895	22
C. B. & Q.	1,472,918	2,487,295	69
C. G. W.	311,890	490,621	57
C. I. & L.	100,509	120,723	20
C. R. I. & P.	1,077,891	1,441,883	34
C. St. P. M. & O.	220,689	228,241	3
Clinchfield	73,158	68,892	-6
Colo. & Sou.	90,507	156,488	73
Col. & Green.	15,515	58,076	274
D. & H.	339,672	405,960	19
D. & T. S. L.	9,389	11,783	25
D. T. & I.	52,626	92,820	76
D. M. & I. R.	101,242	156,935	55
D. S. S. & A.	19,310	17,595	-9
E. J. & E.	150,615	180,345	20
Erie	819,513	1,084,429	32
F. E. C.	68,665	118,210	72
Ft. S. & W.	7,494	10,616	42
Ft. W. & D. C.	66,377	73,130	10
G. N.	773,406	1,379,720	78
I. C.	1,122,868	1,886,991	68
K. C. S.	144,517	94,805	-34
K. C. Term'l	53,769	72,143	34
L. S. & I.	9,591	21,261	122
L. & N. E.	47,265	61,369	30
La. & Ark.	61,178	72,136	18
L. & N.	683,709	1,035,939	51
Me. Cent.	128,007	139,377	9
M. St. P. & S. S. M.	449,491	296,640	-34
Mo. Pac.	1,782,317	2,030,865	14
M. & O.	119,463	194,980	63
Monong.	29,825	13,642	-54
Montour	17,243	17,991	4
N. C. & St. L.	160,754	157,473	-2
Nev. Nor.	6,765	12,695	88
N. Y. N. H. & H.	760,872	1,195,376	57
N. Y. O. & W.	69,630	54,667	-22
N. P.	648,541	1,241,171	91
Nw. Pac.	11,386	31,517	177
Penna. & L. I.	3,819,916	6,204,348	62
Penna. S. S. Lines	24,428	28,872	18
P. & S.	8,504	12,588	48
P. & W. Va.	48,651	256,832	428
P. S. & N.	16,334	10,956	-33
Reading	341,475	525,415	54
R. F. & P.	50,742	195,979	286
St. L.-S. F.	533,820	918,076	72
St. L. S. W.	195,941	312,858	60
Southern	1,474,864	1,801,300	22
S. P.	1,294,068	1,960,978	51
S. P. & S.	74,412	151,054	103
Tenn. Cent.	38,222	34,876	-9
Term'l of St. L.	123,771	111,436	-10
T. & N. O.	473,196	659,917	42
T. & P.	348,961	442,687	27
Utah	5,107	20,444	300
Virginian	223,306	226,513	1
Wabash	435,650	673,859	54
W. Md.	193,685	410,952	112
W. P.	348,100	403,400	16
W. & L. E.	253,990	253,240	0

No adjustments have been made in the above figures for changes in material prices.

There were 62 railroads out of 77 reporting July figures whose purchases of materials and supplies, exclusive of fuel and equipment, exceeded, dollar for dollar, those in July, 1936.

ACCORDING to a pamphlet entitled "Our World Trade" published by the Chamber of Commerce of the United States, 121,625,000 lb. of steel rail were exported in the first six months of 1937, as compared with 76,288,000 lb. in the corresponding period of 1936. This represents a gain of 59.4 per cent.

Communications . . .

Unwarranted Wage Rises Usually Cause Unemployment

ALEXANDRIA, LA.

TO THE EDITOR:

For a number of years I have been an interested reader of *Railway Age*. At times I read some good articles, and others not so hot.

Your recent article on the wage increase is absurd. Let us analyze the recent raise given the so-called non-operating organizations. You say it will cost the railroads 96 million dollars.

Well, if they apply it like they did on the ——— Railway they will make money on it. This is what happened here. They had ten clerks on this terminal who got 40 cents a day, or a total of $4.00 more. Well, here is what happened. They pulled off a $4.49 clerk and put his work on the other nine. So they made 49 cents a day on the deal.

They applied the same thing to the shop crafts here, and I understand they did this all over the system.

Now, let's look at the other side of the table. It is common gossip that the president of the ——— Railway has received a substantial increase, and to an already large salary, and I wonder if they cut off any of the executive staff? No!

You wonder why there are Reds in this country. I don't, and I am not one. Andy Mellon gave a 50 million art gallery to "us" citizens; while the "Slavs" from Europe who were brought into this country starved for a pittance a day and lived in shacks and hovels to enable such as him to pile it up. And you wonder why they are Reds. I don't, and I ain't one.

Alf Sloan of the General Motors got a raise from $347,000 to $516,000 a year, but didn't give the workers a dime. And you wonder why there are Reds, and I am not one.

And so on, forever and forever.

I dare you to put this on your editorial page.

R. R. RYAN,
Member B. R. T. 856.

[The estimate of $98,000,000 as the cost of the increase in wages to non-operating employees was made on the basis of actual operations in 1936. Obviously neither we nor anyone else can predict with accuracy in advance what increased wage payments will actually amount to. If Mr. Ryan is a regular reader of the *Railway Age* he will recall many occasions when we have pointed out that wage increases mean fewer jobs, unless business is rapidly increasing.

Time and again we have called attention to the fact that, when there is only so much money to go around and wage rates are increased, then there is no alternative left to management but to get along with less help. Does anyone think that the railroads would have cut forces and let maintenance pile up the way they did during the depression, if wages had been reduced to correspond with the reduction in the cost of living?

The wage policy the railway unions have followed has been to assure high pay in bad times to those fortunate enough to hold jobs—with the inevitable corollary of increasing the number of employees who must be laid off. Thousands upon thousands of railroad employees who were furloughed during the depression can blame no one for what happened to them save the organizations to which they paid dues for so many years when they had jobs.

The money to meet higher wage rates has to come from somewhere. Unless traffic is increasing rapidly to provide the extra money, management is forced to raise it by retrenchment. Usually, it comes first from the stockholders' share, if any. Then the management has to look around everywhere and save a dollar wherever possible. It has to curtail its purchases of materials and supplies, thus throwing the employees of manufacturers out of work. Bondholders may have to "kick in" too, losing their interest or principal or both, and when this happens the usual result is that the stockholders not only do not get any return on their money but lose their principal as well. If some railroad jobs have to go, that is too bad—but the unions asked for it and the managements have got to find the money where they can.

Blanket increases in wages are justifiable when business is rapidly increasing and when earnings are sufficient to absorb them without penalizing the industry's investors and its customers. But when wages are forced up, as they have been this year, with only a slight increase in business, and with railway capital still on a starvation diet, then unemployment is bound to follow—not only on the railroads, but in the industries which supply them with equipment and materials.

Thus we are not surprised at our correspondent's report that the wage increase has resulted in the loss of jobs. Moreover, we make the further prediction that with the wage increase granted to train service employees, still more jobs may have to go. It is fine for the employees with enough seniority to hold on, but it is tough—and absolutely unfair—for those laid off. *But this is the unions' doing, not the managements'.*

As to salaries of railway managers—these are determined for the most part by competition, not coercion. If a manager can so operate a property that he can make it earn more and give more employees jobs than a competing line, that manager is in demand. To pay him a large salary to keep him from going with a competitor is a good bargain for the company he works for. Not only that, but it is also to the advantage of the employees—since the replacement of an efficient manager by an inefficient manager would impoverish the entire railroad and bring about the destruction of many employees' jobs.

Our guess is that an employee of a railroad of which it has been found necessary to increase the compensation of the manager is better off and his job is safer than it would be if the manager of his company were in danger of losing his job through inefficiency.

The *Railway Age* does not undertake to defend the salaries paid to officers of unregulated industries, such as automobile manufacturing which our correspondent cites, although quite likely the stockholders are getting a bargain by employing men of this caliber instead of cheaper material. We do ask, however, since outside industries do pay these high salaries to their leaders, how long the railroads can continue to pay their managers salaries only a fraction as large and still attract capable men?

Executive pay is determined by competition in an open market. Union wages are determined by organized coercion. If union members are not satisfied with what they receive by the coercive method they employ, then why do they not leave the determination of wage rates to free and open competition? Under such conditions employees of superior ability might earn a great deal more than they do now, while those less capable and less industrious would earn less. Those are the conditions that determine the compensation of managers, and is there any other way of assuring that management of our industries will be in the hands of those most capable of operating them efficiently and supplying jobs for the maximum possible number of employees? —EDITOR.]

Canned Beer and Canned Trains

LIDO BEACH, N. Y.

TO THE EDITOR:

If future passenger train car equipment is going to look like the screwy freaks now appearing on the rails, then I'm mighty glad my youth was spent in an era when a train looked like a train.

Canned beer, and canned trains, what next? The best way to remind people of airplanes is to manufacture blunt-end tin cans resembling plane cabins.

The only decent examples of streamlining, to my mind, are the Pennsylvania's 4800 class electric locomotives, and the Baltimore & Ohio's heavy Royal Blue train.

Here's hoping that railway mechanical engineers will forget about silly streamlining and feather-weight toys.

L. J. CALLANAN.

NEWS

Surplus Tax Hits Transport Industry

Committee of U. S. C. of C. tells of adverse effect on carriers

The Transportation Committee of the Chamber of Commerce of the United States has submitted to the Chamber's board of directors a report pointing out difficulties placed by the undistributed earnings tax specifically upon transportation agencies. The committee finds in such difficulties reasons why it "strongly supports the Chamber's position in favor of repealing the tax or its modification to overcome as far as possible the objections outlined." The Chamber recently issued a summary purporting to show the handicaps imposed upon business generally by the tax.

"The transportation agencies," the Transportation Committee declares, "find themselves in a position similar to that of business generally with respect to the inequitable and discriminatory results of the tax, but with further aggravation due to regulatory restraints and the fact that the entire industry, now more than ever, requires reequipment and improvement.

"These needs are in part the result of subnormal expenditures for these purposes during the depression years and in part to recent striking developments of new and better transportation equipment of practically every type. As a consequence, in the case of many transportation companies, the public interest clearly requires that a substantial portion of current income should be available for reequipment and betterment purposes. This has been recognized by the Interstate Commerce Commission.

"Transportation rates and service are regulated by public authority and therefore are not readily adjusted to the ups and downs of business conditions. Accordingly it is especially important that in periods of heavy traffic transportation enterprises be allowed to accumulate reserves to tide them over periods of depression. The undistributed earnings tax penalizes such prudent and desirable policies.

"Furthermore, transportation agencies subject to regulation by the Interstate Commerce Commission are restricted as to the amount and purposes for which securities may be issued. The commission requires that provision for sinking funds to retire borrowings be made as a prerequisite to approval of such issues. The tax imposes hardship upon companies accumulating such sinking funds. In the case of loans made from the Reconstruction Finance Corporation, the government again on the one hand requires reserves to be provided to retire obligations to it, and on the other penalizes such reserves through the tax. Reorganizations under provisions of the Bankruptcy Act, also are hampered by this tax.

Enthusiast Activities

A joint meeting of the New York, Philadelphia, Pa., and Washington, D. C., divisions of Railroad Enthusiasts, Inc., is to be held on October 16 at the Broad street suburban station, Philadelphia. An officer of the Pennsylvania will address the group, and motion pictures taken from the cab on main line locomotives will be shown by T. H. Bateman, chairman of the Philadelphia division. A special Pennsylvania train will convey the New York contingent to and from the meeting.

Coal to Chicago Suburbs

Examiner Alfred G. Hagerty has recommended in a proposed report to the Interstate Commerce Commission that carload rates on bituminous coal, from origins in Illinois, Indiana, Kentucky, Pennsylvania, Virginia and West Virginia, to suburban locations in Illinois north of the Chicago switching district on and east of the "back" or "Mayfair" freight line of the Chicago & North Western be found unduly prejudicial, but not otherwise unlawful, to the extent that they exceed, by more than 20 cents per ton, the rates concurrently maintained for like transportation from the same origins to locations within the Chicago switching district. In requiring that the prejudice be removed Examiner Hagerty would disallow claims for damages for lack of sufficient proof.

August's N. O. I. 22.2 Under 1936

Drop, which came despite more gross, was "due to rising costs of operation"

Class I railroads of the United States in August had a net railway operating income of $50,307,881, which was a decrease of 22.2 per cent compared with the same month last year, according to the Bureau of Railway Economics, Association of American Railroads. This decrease, the A.A.R. adds, "was due to rising costs of operation, which include increased cost of materials, supplies and fuel and also a higher wage rate." Operating costs in August, 1937, were 8.9 per cent above those for August, 1936, while gross revenues were only 2.6 per cent above last year.

Class I Railroads—United States

Month of August

	1937	1936	1930
Total operating revenues	$359,611,955	$350,447,811	$460,973,773
Total operating expenses	268,190,412	246,198,563	323,571,474
Taxes	29,643,343	27,997,683	31,747,043
Net railway operating income	50,307,881	64,624,212	94,327,471
Operating ratio—per cent	74.58	70.25	70.19
Rate of return on property investment—per cent	1.77	2.28	3.33

Eight Months Ended August 31

	1937	1936	1930
Total operating revenues	$2,811,570,737	$2,572,205,610	$3,572,873,894
Total operating expenses	2,093,345,834	1,915,174,958	2,701,718,583
Taxes	222,573,518	204,802,375	240,197,403
Net railway operating income	408,217,228	364,361,519	545,262,898
Operating ratio—per cent	74.45	74.46	75.62
Rate of return on property investment—per cent	2.56	2.29	3.45

The net railway operating income in August was at the annual rate of return of 1.77 per cent on property investment; in August, 1936, it was $64,624,212, or 2.28 per cent, and in August, 1930, it was $94,327,471, or 3.33 per cent. Gross revenues for August amounted to $359,611,955 compared with $350,447,811 in August, 1936, and $460,973,773 in August, 1930; operating expenses totaled $268,190,412 compared with $246,198,563 in August, 1936, and $323,571,474 in August, 1930.

In the first eight months of 1937 net railway operating income totaled $408,217,228, which was at the annual rate of return of 2.56 per cent. In the same period last year it was $364,361,519, or 2.29 per cent, and in the first eight months of 1930 it was $545,262,898, or 3.45 per cent. Gross for the first eight months totaled $2,811,570,737, an increase of 9.3 per cent over the $2,572,205,610 reported for the same period

(*Continued on page 504*)

Dubs French Plan Compromise Pact

Financial writer foresees debt load and rate rises if depression lasts

Denying that the unification of the French main-line carriers into a national system is a process of "nationalization" in the strict sense of that term but, rather, a political compromise, C. R. Hargrove, correspondent for the "Wall Street Journal," writing in that publication on September 28 and 29, interprets the unification as a plan whereby the state assumes control of the carriers for the purpose of insuring "financial equilibrium" through economies and rate advances, retaining the private companies as corporate entities until their individual charters expire between 1950 and 1960 and granting present stockholders and debtors a fair remuneration. According to the analysis, the unification plan, which was decreed by the French cabinet on August 31, as reported in the *Railway Age* of September 4, page 319, to be effective for 45 years commencing January 1, 1938, is, strictly speaking "a unification of administrative and financial control, of which the representatives of state will have the larger share, though, in return, the state undertakes, through the new national company, full responsibility for service of the companies' existing debts, besides, indirectly, remuneration of their shareholders."

Briefly, the financial provisions of the plan fix the working capital of the national operating company at short of 1,420,000,000 francs (approximately $46,860,000 at the current rate of exchange) of which a little more than half will be held by the state and the remainder by the present five private carriers. The shares are entitled to a fixed rate of 6 per cent interest until amortization in 1982. The companies' shares will remain blocked until the end of 1955, the profits of which for the next eight years and 20 per cent of the sums received for interest and amortization until 1955, should the unified company enjoy a balanced budget, will be distributed to the shareholders of the private companies. The existing private companies also retain ownership of their private properties, consisting mainly of reserves estimated at 650,000,000 francs ($21,450,000).

In contrast to conditions obtaining since 1921, under which the French government, guaranteeing statutory interest on the stocks of the private carriers, has serviced loans to make up deficits accruing in 14 of the 16 years since 1921, and has assumed an accumulated debt, as of December 31, 1936, in excess of 26,000,000,000 francs ($858,000,000), the unification plan provides that the national company must raise rates gradually until financial health is reached, such increases to be effective within a month after legislative approval.

Mr. Hargrove's second article, in analyzing the status of each interested party under the new plan, points out that shareholders retain their guarantee of dividends and statutory interest and share in the private property or *domaines prives*, and that the bondholders, receive also a direct guarantee through the national company, backed by the entire French railway mileage. It is the taxpayers, he believes, who will fare badly under the plan. As rate-payer he will bear the brunt of increased charges. As taxpayer he will assume the burden of debt which promises to increase for the next few years, and at a high interest rate. But whether he bears the burden as a taxpayer or as a railroad patron, the French citizen will not be favored by the plan until general business recovery comes. Mr. Hargrove emphasizes the fact that "what remains true, whatever solution be proposed for the railway problem, is that it will defy solution unless the problem of revival of the national economy is solved, too."

$55,262,128 Net for Seven Months

Compares with net deficit of $3,506,435 for same 1936 period

Class I railroads for the month of July reported to the Interstate Commerce Commission a net income after fixed charges and other deductions of $19,007,303, as compared with a net of $19,411,612 in July, 1936, according to the commission's monthly compilation of selected income and balance sheet items. For the first seven months of the year the net income was $55,262,128, as compared with a net

SELECTED INCOME AND BALANCE-SHEET ITEMS OF CLASS I STEAM RAILWAYS

Compiled from 135 Reports (Form IBS) Representing 141 Steam Railways

TOTALS FOR THE UNITED STATES (ALL REGIONS)

For the month of July 1937	For the month of July 1936	*Income Items*	For the seven months of 1937	For the seven months of 1936
$60,560,114	$61,725,951	1. Net railway operating income.....	$357,909,342	$299,749,973
12,884,437	12,656,741	2. Other income	80,531,561	84,799,487
73,444,551	74,382,692	3. Total income	438,440,903	384,549,460
1,627,146	1,557,875	4 Miscellaneous deductions from income	11,986,049	11,271,553
71,817,405	72,824,817	5 Income available for fixed charges..	426,454,854	373,277,907
		6. Fixed charges:		
11,174,481	11,118,672	6-01. Rent for leased roads	77,562,248	77,628,027
40,396,512	41,052,990	6-02. Interest deductions	284,783,971	290,492,145
221,636	231,570	6-03. Other deductions	1,636,493	1,561,656
51,792,629	52,403,232	6.04. Total fixed charges	363,982,712	369,681,828
20,024,776	20,421,585	7. Income after fixed charges	62,472,142	3,596,079
1,017,473	1,009,973	8. Contingent charges	7,210,014	7,102,514
19,007,303	19,411,612	9. Net income†	55,262,128	*3,506,435
16,359,173	16,162,455	10. Depreciation (Way and structures, and Equipment)	113,866,156	112,926,885
4,265,213	2,876,500	11. Federal income taxes	23,661,546	14,742,047
		12. Dividend appropriations:		
4,099,670	4,204,291	12-01. On common stock	53,673,160	48,690,659
1,126,883	990,060	12-02. On preferred stock	10,924,468	14,192,971

Selected Asset Items	Balance at end of July 1937	Balance at end of July 1936
13. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	$698,824,767	$688,489,789
14. Cash	$446,349,116	$424,481,506
15. Demand loans and deposits	12,996,623	6,842,362
16. Time drafts and deposits	41,933,864	32,451,437
17. Special deposits	179,869,396	132,004,906
18. Loans and bills receivable	12,548,260	2,505,757
19. Traffic and car-service balances receivable	59,920,486	61,786,325
20. Net balance receivable from agents and conductors	50,043,664	50,189,622
21. Miscellaneous accounts receivable	142,859,403	140,362,146
22. Materials and supplies	374,831,739	295,320,664
23. Interest and dividends receivable	21,862,298	26,500,322
24. Rents receivable	1,755,553	2,149,384
25. Other current assets	8,036,971	6,222,624
26. Total current assets (items 14 to 25)	$1,353,007,373	$1,180,817,055
Selected Liability Items		
27. Funded debt maturing within 6 months‡	$90,114,846	$173,976,045
28. Loans and bills payable§	$211,079,600	$226,783,627
29. Traffic and car-service balances payable	83,033,636	82,017,680
30. Audited accounts and wages payable	268,935,498	227,037,349
31. Miscellaneous accounts payable	106,869,715	92,486,819
32. Interest matured unpaid	598,017,380	476,648,226
33. Dividends matured unpaid	6,073,428	6,494,225
34. Funded debt matured unpaid	480,872,639	444,117,661
35. Unmatured dividends declared	9,702,142	9,345,821
36. Unmatured interest accrued	105,009,100	104,737,418
37. Unmatured rents accrued	27,354,860	26,933,827
38. Other current liabilities	24,493,129	24,996,535
39. Total current liabilities (items 28 to 38)	$1,921,441,127	$1,721,599,188
40. Tax liability (Account 771):		
40-01. U. S. Government taxes	$110,071,818	$64,115,727
40-02. Other than U. S. Government taxes	144,897,869	146,199,737

† The net income as reported includes charges of $3,340,997 for July, 1937, and $22,620,351 for the seven months of 1937, $1,504,618 for July, 1936, and $10,091,842 for the seven months of 1936 on account of accruals for excise taxes levied under the Social Security Act of 1935; also includes a net credit of $1,280,021 for July, 1937, and a net charge of $10,602,591 for the seven months of 1937, because of provisions of the "Carriers Taxing Act of 1937," approved June 29, 1937, and repeal of the Act of August 29, 1935, levying an excise tax upon carriers and an income tax upon their employees, and for other purposes. (Public No. 400, 74th Congress.) The charges and credits were not handled in a uniform manner by all the carriers and separate totals are not available. The net income for July, 1936, includes charges of $3,803,228 and for the seven months of 1936 of $19,397,053 under the requirements of an Act approved August 29, 1935, levying an excise tax upon carriers and an income tax upon their employees, and for other purposes. (Public No. 400, 74th Congress.)

‡ Includes payments which will become due on account of principal of long-term debt (other than that in Account 764, Funded debt matured unpaid) within six months after close of month of report.

§ Includes obligations which mature not more than 2 years after date of issue.

* Deficit or other reverse items.

NET INCOME OF LARGE STEAM RAILWAYS WITH ANNUAL OPERATING REVENUES ABOVE $25,000,000

Name of railway	Net income after deprec. For the seven months of 1937	Net income after deprec. For the seven months of 1936	Net income before deprec. For the seven months of 1937	Net income before deprec. For the seven months of 1936
Alton R. R.	* $441,997	* $959,458	* $236,335	* $759,148
Atchison, Topeka & Santa Fe Ry. System§	6,848,711	1,996,050	13,443,604	8,616,942
Atlantic Coast Line R. R.	3,144,319	1,423,266	4,329,310	2,665,419
Baltimore & Ohio R. R.	* 353,477	* 1,820,819	3,858,286	2,488,498
Boston & Maine R. R.	659,772	* 2,772,735	1,598,366	* 1,814,900
Central of Georgia Ry.†	* 1,012,883	* 1,472,609	* 553,766	* 1,023,395
Central R. R. of New Jersey	* 748,723	* 2,003,331	88,862	* 1,110,453
Chesapeake & Ohio Ry.	18,686,930	21,040,465	23,498,179	25,953,328
Chicago & Eastern Illinois Ry.‡	* 552,373	* 702,776	* 196,826	* 357,420
Chicago & North Western Ry.‡	*10,063,529	* 9,788,534	* 7,163,806	* 6,871,916
Chicago, Burlington & Quincy R. R.	1,391,917	310,878	4,203,063	2,987,239
Chicago Great Western R. R.‡	* 796,326	* 496,849	* 487,025	* 206,788
Chicago, Milwaukee, St. Paul & Pacific R. R.‡	* 8,413,227	*10,212,153	* 5,241,637	* 7,077,115
Chicago, Rock Island & Pacific Ry.‡	* 6,052,485	* 9,398,690	* 3,683,165	* 6,890,534
Chicago, St. Paul, Minneapolis & Omaha Ry.	* 2,022,116	* 1,495,221	* 1,676,131	* 1,146,864
Delaware & Hudson R. R.	898	* 1,072,410	620,782	* 428,246
Delaware, Lackawanna & Western R. R.	365,037	* 653,484	1,834,986	904,817
Denver & Rio Grande Western R. R.‡	* 4,109,184	* 3,515,423	* 3,440,169	* 2,841,775
Elgin, Joliet & Eastern Ry.	1,295,286	867,863	1,815,099	1,392,703
Erie R. R. (including Chicago & Erie R. R.)	1,394,844	428,619	3,618,409	2,697,067
Grand Trunk Western R. R.	75,595	670,772	684,238	1,335,475
Great Northern Ry.	1,644,353	* 1,154,479	3,756,702	991,942
Illinois Central R. R.	* 2,012,611	* 2,073,642	1,639,468	1,754,153
Lehigh Valley R. R.	* 690,000	289,892	628,209	1,630,843
Long Island R. R.	* 1,456,662	* 449,208	* 774,008	230,114
Louisville & Nashville R. R.	4,464,911	4,040,434	6,891,105	6,479,464
Minneapolis, St. Paul & Sault Ste. Marie Ry.	* 3,622,711	* 3,658,892	* 2,934,518	* 2,945,227
Missouri-Kansas-Texas Lines	* 619,866	* 1,383,990	70,962	* 634,434
Missouri Pacific R. R.‡	* 4,127,911	* 6,771,709	* 1,692,136	* 4,320,997
New York Central R. R.¶	6,748,629	1,410,557	16,095,965	10,853,716
New York, Chicago & St. Louis R. R.	1,510,936	1,383,822	2,461,542	2,285,315
New York, New Haven & Hartford R. R.‡	* 2,871,283	* 4,793,172	* 886,638	* 2,784,501
Norfolk & Western Ry.	18,339,681	16,838,819	21,113,017	19,463,933
Northern Pacific Ry.	* 2,993,298	* 5,472,200	* 1,112,110	* 3,626,475
Pennsylvania R. R.	15,820,386	16,359,142	30,287,434	29,039,191
Pere Marquette Ry.	1,284,874	1,257,105	2,777,559	2,737,115
Pittsburgh & Lake Erie R. R.	2,704,555	2,367,940	3,738,046	3,420,937
Reading Co.	4,791,580	3,407,392	6,599,870	5,266,333
St. Louis-San Francisco Ry.‡	* 3,550,056	* 4,957,793	* 1,715,407	* 3,076,486
St. Louis Southwestern Lines‡	* 698,984	* 272,177	* 348,121	81,409
Seaboard Air Line Ry.†	* 2,144,459	* 4,089,802	* 1,016,918	* 2,993,536
Southern Ry.	1,573,179	446,744	3,402,090	2,340,430
Southern Pacific Transportation Systemø	559,784	1,320,977	5,243,212	5,910,425
Texas & Pacific Ry.	1,511,184	670,167	2,191,367	1,351,355
Union Pacific R. R.	3,439,885	4,339,295	7,350,932	8,099,547
Wabash Ry.†	* 1,246,144	* 1,525,559	2,325	* 280,619
Yazoo & Mississippi Valley R. R.	286,207	* 412,170	570,719	* 111,926

† Report of receiver or receivers.
‡ Report of trustee or trustees.
§ Includes Atchison, Topeka & Santa Fe Ry., Gulf, Colorado & Santa Fe Ry., and Panhandle & Santa Fe Ry.
¶ Includes Boston & Albany, lessor to New York Central R. R.
ø Includes Southern Pacific Company and Texas & New Orleans R. R. The operation of all separately operated solely controlled affiliated companies resulted in a net deficit of $1,764,613 for seven months of 1937 and $2,006,042 for seven months of 1936. These figures are not reflected in this statement.
* Deficit.

deficit of $3,506,435 in the corresponding period in 1936.

Seventy-one roads reported a net income in July, while 61 reported deficits, and for the seven months' period 75 roads reported a net income and 57 reported deficits. The consolidated statement and a statement of the net income of the roads having annual operating revenues above $25,000,000 are given in the accompanying tables.

Illinois Chamber of Commerce Luncheon

The Illinois Chamber of Commerce will hold its annual transportation luncheon in connection with its annual meeting at the Hotel LaSalle, Chicago, on Thursday, October 14. Robert V. Fletcher, vice-president and general counsel of the Association of American Railroads, will speak on Government Regulation—Its Uses and Abuses.

A.A.R. Safety Poster Warns Youthful Trespassers

For its November program, the Safety Section, Association of American Railroads, issues a special warning to "young people and their friends" of the dangers of trespassing on railroad right-of-way, driving home its message with a reprint of a combination photograph and sketch originally distributed in March 1934, depicting the youthful victim of car wheels. The accompanying circular points out that during the last 20 years nearly 10,000 boys and girls have been killed and more than 16,000 seriously injured while trespassing on railroad property. A tabulation reveals that, while such accidents to those youngsters under 14 years of age have been steadily reduced since 1917, those suffered by youths 14 to 21 years old increased from 1,192 deaths and 2,467 serious injuries in the period 1927 to 1931, inclusive, to 1,473 deaths and 3,222 injuries in the period from 1932 to 1936, inclusive.

Equipment Depreciation Orders

The Interstate Commerce Commission has issued a new series of sub-orders and modifications of previous sub-orders in No. 15100, Depreciation Charges of Steam Railroad Companies, prescribing depreciation rates applicable to the equipment of 10 small roads. The composite percentages, which are not prescribed rates but merely derivatives from such, range from 2.61 per cent for the St. Joseph Belt to 5.7 per cent for the Hooppole, Yorktown & Tampico.

The largest of the 10 roads involved is the Toledo, Peoria & Western, the sub-order for which is a modification of a previous one. Its composite percentage of 5.31 is derived from the following prescribed rates: Steam locomotives acquired new, 4.15 per cent; steam locomotives acquired second-hand, 7.89 per cent; freight-train cars, 9.36 per cent; passenger-train cars, 10.40 per cent; work equipment, 7.87 per cent; miscellaneous equipment, 23.15 per cent.

"400" to Feature "Continental" Dinner

As an added attraction to its service, the Chicago & North Western is featuring a "Continental" dinner on its "400" between Chicago and the Twin Cities. The meal is served in French manner, opening with canape of caviar and giving the diner a rare selection of edibles, red or white wine and *cafe et cognac*.

Stoker Argument November 15

Oral argument in the automatic stoker case will be held before Division 3 of the Interstate Commerce Commission at Washington, D. C., on November 15. The proposed report in this proceeding wherein Special Examiner Homer C. King has recommended that automatic stokers be required on big locomotives was abstracted in the *Railway Age* of September 25, page 415.

Richmond Traffic Group to Continue Educational Work

At a dinner meeting of the Richmond, Va., Traffic Club on September 20, plans were effected for continuing sponsorship by the organization of a course in traffic management at the Virginia Mechanics' Institute, Richmond. O. J. McSwain, traffic manager, Albemarle Paper Manufacturing Co., G. H. Alfriend, assistant traffic manager, Virginia-Carolina Chemical Corporation, and J. W. Hanewinckel, chief rate quotation clerk, Chesapeake & Ohio, all of Richmond, have been appointed instructors of classes held under the course.

Domestic Air Lines Carried 123,550 Passengers in August

The 17 scheduled airlines operating in continental United States in August, 1937, carried 123,550 passengers, and flew 51,941,842 passenger miles, according to reports to the Bureau of Air Commerce, Department of Commerce. The lines carried 618,113 lb. of express and flew 352,586,526 express pound-miles during the month. In August, 1936, the 22 companies then reporting carried 106,143 passengers and 565,358 lb. of express, flying 43,109,200 passenger-miles and 293,915,891 express pound-miles.

Acetylene Group to Meet

The 38th annual convention of the International Acetylene Association will be held on November 10-12 in Birmingham, Ala. Technical sessions will be held during the morning of each of the three days. Round table discussion groups are scheduled for the afternoons of November 10 and 11. Those features of the program of interest to railroads include a paper on "Butt-Welding of Railroad Rails," to be presented by R. R. Cummins, assistant gen-

eral manager, Central of Georgia, at the first technical session, November 10, and a paper entitled "Welding Stainless and Alloy Steels" prepared by H. C. Whittmer of the Republic Steel Corporation, Cleveland, Ohio.

Walter Case Dies in Fall

Walter S. Case, director of the Southern Railway and well known in New York financial circles for his interest in and knowledge of railroad problems, died on the night of October 5, from a fall from the window of his New York office, 120 Wall St. Mr. Case was president of the investment house of Case, Pomeroy & Co., large holders of stock in the Southern.

Swedish System Designs Mobile Insulated Container

Seeking a type of insulated container that can be moved without over-head crane facilities, the Swedish State Railways, as reported in the Railway Gazette (London), has recently designed and constructed a small zinc-lined container having a capacity of 16 cwt. (1,792 lb.) and a loaded weight of 22 cwt. (2,464 lb.) and intended primarily for the shipment of fish. Its size, 5 ft. 10 in. in height, 3 ft. 11 in. in width and 4 ft. 8 in. in length, permits it to be transferred in platform service on regulation size hand-trucks.

The insulating material placed between the inner and outer casings is known as isoflex, a mixture of a cellulose base and aluminum powder pressed into corrugated sheet. For mobility, the unit is furnished with small wheels fitted to an auxiliary frame. If desired, the frame may be raised, allowing the container to rest upon short legs formed by extension of its vertical members.

Stamp Dedicates Britain's First Rail School

Sir Josiah Stamp, chairman and president of the executive committee of the London, Midland & Scottish (Great Britain), recently dedicated the cornerstone of Great Britain's first "school of transport" for railroaders, which the L. M. S. is building at Omaston Park, Derby, and is expected to be completed in May, 1938, according to the Railway Gazette (London). It is planned that the institution will offer courses to 50 resident students selected from the younger members of the L. M. S. staff. Standard text-books designed for the training courses are in preparation.

In a speech following the dedication ceremony, Sir Josiah pointed out that the school will constitute as much a clearing house of ideas as a school of formal courses and that the curriculum should consist largely of "refresher courses" for keeping men abreast of developments in the railway field, adding that "learning teaches more in a year than experience in 20."

Allied Supply Men Elect

The Allied Railway Supply Association, Inc., which was in charge of the joint equipment exhibit prepared for the annual meetings of the Railway Fuel & Traveling Engineers' Association, the Car Department Officers' Association, the International Railway General Foremen's Association, and the Master Boiler Makers' Association, at the Sherman hotel, Chicago, from September 28 to October 1, has elected the following officers for 1937-1938: President, L. B. Rhodes, Vapor Car Heating Company, Washington, D. C.; First Vice-President, J. W. Fogg, MacLean-Fogg Nut Company, Chicago; Second Vice-President, C. F. Weil, American Brake Shoe & Foundry Company, Chicago; Third Vice-President, F. W. Venton, Crane Company, Chicago; Fourth Vice-President, M. K. Tate, Lima Locomotive Works, Inc., Lima, Ohio; Fifth Vice-President, H. S. Mann, Standard Stoker Company, Inc., Chicago.

J. E. Gettrust, Ashton Valve Company, Chicago, and G. R. Boyce, A. M. Castle & Co., Chicago, were re-elected secretary and treasurer, respectively.

N. & W. Erects Large Crane

The Norfolk & Western has recently completed at its Sewalls Point (Norfolk), Va., piers, a new dockside crane which carries a clam-shell bucket having a lifting and carrying capacity of approximately 6,000 lb. and which can unload bulk cargoes from ships into railroad cars at a rate up to 280 tons an hour, or four times the speed of ordinary ship's gear. Built at a cost of approximately $75,000, the crane is electrically operated throughout by six electric motors and a series of 32 relays and switches, electrically and mechanically interlocked, and is specially designed for the speedy transfer of ore, sulphur, nitrates, logs and other heavy commodities. Of these it can remove iron ore from vessels at the rate of 280 tons an hour, nitrates at 250 tons an hour and sulphur at 200 tons per hour.

Standing 83 ft. high, the lifting structure is built of a steel framework which supports an apron extending 34 ft. beyond the face of the pier. A hopper and chutes permit the transfer of commodities from ships into both box and open-top cars. Adaptable to varying loading conditions, the crane can be moved the entire length of the pier, 1,100 ft.

New Officers for Boiler Makers Group

The Master Boiler Makers' Association, at the closing session of its annual meeting held at the Sherman hotel, Chicago, September 29 and 30, elected the following officers for the ensuing year: President, William N. Moore, general boiler foreman, Pere Marquette, Grand Rapids, Mich.; Vice-President and Chairman of the executive board, Carl Harper, general boiler inspector, Cleveland, Cincinnati, Chicago & St. Louis, Indianapolis, Ind.; Secretary-Treasurer, Albert F. Stiglmeier, general foreman boiler maker, New York Central, West Albany, N. Y.

M. C. France, general boiler inspector, Chicago, St. Paul, Minneapolis & Omaha, St. Paul, Minn.; L. W. Steeves, boiler foreman, Chicago & Eastern Illinois, Danville, Ill.; and C. W. Buffington, master boiler maker, Chesapeake & Ohio, Huntington, W. Va., were elected to three-year terms on the executive board and L. R. Haase, district boiler inspector, Baltimore & Ohio, Swissvale, Pa., was elected to serve out the unexpired term on the executive board of W. N. Moore, who was voted president of the association.

Fourth Section Relief

The Interstate Commerce Commission, Division 4, has authorized, upon conditions, fourth section relief with respect to rates on soya-bean cake and meal, in carloads, from transcontinental groups D to N, inclusive, to Pacific ports. Also, upon further hearing, the commission has modified in part its findings in a previous report with respect to rates on the same commodities from the same origin groups to Pacific coast and mountain-Pacific territories.

The relief was sought, the report says, "to meet keen competition over routes operating from the same producing points principally in Illinois through the Panama Canal; also to meet market competition at the coast ports arising out of the importation of soya-bean cake and meal from the Orient, which competition is being met by the canal lines with rates slightly below those which the applicants desire authority to establish. The applicants assert that if there were no canal competition authority would, however, be requested for permission to publish the same rate, subject to relief at intermediate points, solely to meet the market conditions created through the importation of soya-bean products from Oriental countries."

Canada World's Largest User of Air Freight Service

Canada is said to lead the world in the carriage of freight by air according to reports received by the United States Department of Commerce from the American commercial attache at Ottawa. In 1936 commercial air transport companies, operating chiefly in the Dominion's northern mining areas, carried 22,947,105 lb. of freight consisting largely of machinery, fuel oil and supplies compared with only slightly more than 2,300,000 pounds in 1931.

Until last year, when the greatest amount of freight in Canadian aviation was carried, the greatest increase was recorded in 1934 when some 14,000,000 lb. of freight was transported by air, as compared to only slightly more than 4,000,000 lb. in the previous year.

Although the volume of air mail carried under contract in 1936—1,107,060 lb.—was slightly smaller than 1935, it was two and one half times larger than air mail carried in 1931. Total commercial mileage flown in Canada last year was 7,100,401 miles and passengers carried numbered 109,723; gross operating revenues totaled $2,501,242 and operating expenses $2,390,019, according to the report.

Claim Payments for Freight Thefts Lowest on Record

Claims resulting from theft of freight, paid by the railroads of the United States and Canada in the first six months of 1937 were the smallest on record, according to the Association of American Railroads.

Such claims amounted to $302,514, a reduction of $106,061 or 26 per cent compared with the first half of 1936, and a reduction of $190,451 or 39 per cent compared with 1935.

Of the entire amount paid in this year's first six months, claims resulting from the theft of entire packages totaled $155,619; and for theft other than entire package, $146,895. Since 1920, when freight thefts cost the railroads more than $12,000,000 in claims, there has been a gradual reduction, such claims paid in 1937 representing a decrease of 95 per cent compared with 17 years ago. "This reduction," says the A.A.R., "has been due in part to the elimination of delays to cars in yards and terminals, extra police protection of cars containing cigarettes, liquor, and other freight especially attractive to thieves, and to increased efficiency of the railway police departments. Another factor which has discouraged petty pilfering has been the increased cooperation of shippers in the better packing of freight shipments."

Fuel & Traveling Engineers Choose Officers

The Railway Fuel & Traveling Engineers' Association, during its annual meeting held at the Sherman hotel, Chicago, September 28 to October 1, chose the following panel of officers for the ensuing year: President, J. C. Lewis, road foreman of engines, Richmond, Fredericksburg & Potomac, Richmond, Va.; First Vice-President, G. M. Boh, division road foreman of engines, Erie, Hornell, N. Y.; J. R. Jackson, engineer of tests, Missouri Pacific, St. Louis, Mo.; Third Vice-President, A. A. Raymond, superintendent of fuel and locomotive preformance, New York Central, Buffalo, N. Y.

The following members of the executive committee were elected for a term of two years: W. H. Davies, superintendent of air brakes, Wabash, Decatur, Ill.; E. E. Ramey, fuel engineer, Baltimore & Ohio, Baltimore, Md.; W. C. Shove, general road foreman of engines, New York, New Haven & Hartford, New Haven, Conn.; and R. S. Twogood, assistant engineer, Southern Pacific, San Francisco, Cal. Those members elected to serve for one year are: L. E. Dix, fuel supervisor, Texas & Pacific, Dallas, Tex.; J. J. Kane, road foreman of engines, Lehigh Valley, Sayre, Pa.; G. H. Likert, fuel engineer, Union Pacific, Omaha, Neb.; and C. N. Page, supervisor of fuel, Lehigh Valley, Bethlehem, Pa.

General Foremen Elect Officers

During the annual meeting of the International Railway General Foremen's Association, convening at the Sherman hotel, Chicago, September 28 and 29, the following officers were elected to conduct the affairs of the organization for the year 1937-1938: President, F. B. Downey, assistant superintendent of shops, Chesapeake & Ohio, Huntington, W. Va.; First Vice-President, J. W. Oxley, general foreman, Chicago & North Western, Maywood, Ill.; Second Vice-President, Chas. Kirkhuff, general foreman, Atchison, Topeka & Santa Fe, Chicago; Third Vice-President, J. C. Miller, general foreman, New York, Chicago & St. Louis, Conneaut, Ohio; Fourth Vice-President, J. E. Goodwin, general foreman, Missouri Pacific, Little Rock, Ark.; Secretary-Treasurer, F. T. James, general foreman, Delaware, Lackawanna & Western, Kingsland, N. J.

The following members were elected to the executive committee: J. B. Dunlop, general foreman, Canadian National, Strafford, Ont.; F. J. Topping, general foreman, Chesapeake & Ohio, Huntington, W. Va.; E. W. Brown, general foreman, St. Louis-San Francisco, Kansas City, Mo.; W. L. Rice, superintendent of shops, Reading Company, Reading, Pa.; and H. H. Wheeldon, general foreman, Wabash, Moberly, Mo.

Final C. & E. I. Hearing is Held

The Interstate Commerce Commission on October 6, held a public hearing in the reopened case of the reorganization of the Chicago & Eastern Illinois in order that it might receive into the record the pertinent testimony of the Wheeler committee regarding the recent financial history of that carrier. The record in the case had already been closed, but the commission, upon its own motion, decided to reopen the case in order that this information might be incorporated in the record.

R. L. Williams, vice-president of the C. & E. I., read a long statement into the record in which he sought to refute the Wheeler committee testimony and justify the financial policy of the present management. He introduced exhibits to show that the property is now in the best condition that it has ever been.

H. H. Washer, general coal agent of the C. & E. I., appeared as a witness for the road, and submitted a lengthy exhibit to show that the Chesapeake & Ohio had no part in the fixing of coal rates on the C. & E. I. This evidence was introduced to show that the Consumers' Counsel of the National Bituminous Coal Commission was in error in charging that the C. & O. had directly influenced the fixing of coal rates on the C. & E. I. at a higher level than was justifiable.

Old N. Y. & Harlem Tunnel Converted for Road Vehicles

The old Park avenue tunnel, New York City, opened over 100 years ago for steam railroad traffic and later converted for street-railway use, was re-opened as a vehicular tunnel on September 4 by city authorities, after a roadway and mechanical ventilation had been installed at a total cost of $18,000 to the city and $250,000 to the Works Progress Administration. Originally built by the New York & Harlem (incorporated later into the New York Central system) as a link in its line between City Hall square and the Harlem river, the builders of which boasted of their eight-mile road (which cost $137,500 per mile) as the most expensive piece of right-of-way built prior to 1839, the bore incurred the ridicule of contemporary cartoonists, several of whose jibes have been preserved. One of these depicts the tunnel as a great beast, eager to devour in smoke the occupants of the train approaching its mouth.

After the southern terminus of the road was established on the site of the present Grand Central terminal, the tunnel and its tracks were turned over to the horse-car line operating on Fourth avenue. The latter in turn was electrified in the latter part of the 19th century and carried a heavy traffic through the tunnel until its abandonment in the early part of 1936.

Denmark Opens Continental Europe's Longest Bridge

The longest bridge in continental Europe was placed in service on September 26 when King Christian of Denmark dedicated the 10,430-ft. combination railway, pedestrian, and highway bridge which has been under construction for the past three years, spanning the Storstrom between the Danish islands of Zealand and Falster. The new span links the towns of Orehoved and Masnedo, creating a through rail route via the Danish State Railways from Copenhagen to Gjedsen, at the southern tip of Falster where boat connections are made with important European points over the German railway system.

The new bridge, which carries a roadway 18½-ft. wide, an eight-ft. pedestrian's walk and a single railroad track, has a ruling grade of 0.7 per cent and crosses the navigation channel on three tied-arch spans providing an 85 ft. headway clearance for vessels. The center span is 450 ft. long and the two side spans 340 ft. each. The 47 approach spans are of the cantilever type.

The new structure assumes the European length record formerly held by another Danish bridge, the Little Belt span between Middlefart on the island of Fyn, and Snoghoj, Jutland, which was opened by the Danish State Railways on May 14, 1935.

Announce P & S Contest

Another competition among employees of railway purchase and stores departments for papers has been announced by the Purchases and Stores Division, A.A.R. The competition is open to employees below the rank of assistant purchasing agent and assistant general storekeeper and will continue to April 15, 1938, when all papers must be in the hands of the secretary. A committee consisting of C. C. Warne, purchasing agent, New York Central; G. M. Betterton, purchasing agent, Southern Pacific, and E. W. Walther, general storekeeper, Baltimore & Ohio, will select the two best papers and the winners will be invited to read them at the next annual meeting of the purchases and stores division.

Papers may be prepared on any subject relating to the purchasing, storing and distributing of material and should consist of from 1,000 to 3,000 words. Four copies, typed double-space with a black ribbon on one side of the paper only, must be submitted. The papers will be judged on the basis of 70 per cent for originality of ideas, conclusions and solutions of the problems involved, 25 per cent for conciseness and clearness of expression, including grammatical construction, and 5 per cent for general appearance and neatness. The papers should be mailed to W. J. Farrell, secretary, Purchases and Stores Division, A.A.R., 30 Vesey Street, New York, and

will become the property of the association when received.

Freight Car Loading

Revenue freight car loading for the week ended September 25 totaled 840,446 cars, an increase of 13,881 cars or 1.7 per cent above the preceding week, an increase of 33,203 cars or 4.1 per cent above the corresponding week in 1936, and an increase of 210,511 cars or 33.4 per cent above the same week in 1935, but a decrease of 110,217 cars or 11.6 per cent below the same week in 1930. All commodity classifications except forest products and ore showed increases over the preceding week, while all commodity classifications showed increases over last year. The summary, as compiled by the Car Service Division, Association of American Railroads, follows:

Revenue Freight Car Loading

For Week Ended Saturday, September 25

Districts	1937	1936	1935
Eastern	163,799	159,315	141,727
Allegheny	162,934	162,081	114,852
Pocahontas	59,262	57,172	15,189
Southern	117,518	112,412	96,968
Northwestern	138,525	131,364	108,423
Central Western	127,192	120,092	98,768
Southwestern	71,216	64,807	54,008
Total Western Districts	336,933	316,263	261,199
Total All Roads	840,446	807,243	629,935
Commodities			
Grain and Grain Products	36,219	33,667	39,198
Live Stock	21,224	19,321	18,303
Coal	155,730	142,808	62,853
Coke	10,960	9,920	6,445
Forest Products	39,284	37,117	32,461
Ore	65,725	58,604	34,882
Merchandise L.C.L.	173,422	172,347	165,672
Miscellaneous	337,882	333,459	270,121
September 25	840,446	807,243	629,935
September 18	826,565	789,857	706,820
September 11	711,299	700,147	699,786
September 4	804,633	765,131	591,941
August 28	787,373	754,097	680,848
Cumulative Total, 39 Weeks	29,038,845	26,173,543	23,112,084

In Canada.—Car loadings for the week ended September 25 totaled 63,539, as against 61,513 cars for the previous week and 59,661 cars for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

Total for Canada:	Total Cars Loaded	Total Cars Rec'd from Connections
September 25, 1937	63,539	24,387
September 18, 1937	61,513	23,729
September 11, 1937	54,849	20,572
September 19, 1936	59,661	22,675
Cumulative Totals for Canada:		
September 25, 1937	1,887,058	1,009,331
September 19, 1936	1,729,187	869,197
September 21, 1935	1,660,982	801,673

No Passengers Killed in Train Accident in 1937's First Half

Not a passenger on any railroad in the United States lost his life in a train accident in the first six months of 1937, J. J. Pelley, president of the Association of American Railroads announced on October 8. In the same period in 1936, there were five fatalities but none in the same period in 1935.

The railroads carried 246,997,594 passengers in the first six months of 1937, an increase of 10,227,246 or 4.3 per cent compared with the corresponding period of 1936. The volume of passenger traffic handled by the railroads in the six months period this year amounted to 11,671,028,000 passenger miles. This was an increase of 1,761,167,000 passenger miles or 17.8 per cent compared with the same period in 1936.

Columbian Province Seeks National Aid for Railway

Following the general principle that the national government should be called upon for aid when a geographical division thereof runs into financial difficulty with its provincially-owned railway system, an ordinance has been passed by the general assembly of the Department of Cundinamarca, Columbia, authorizing the governor of the department to solve by any of several suggested means the financial problems of the departmentally-owned Cundinamarca Railway (formerly the Sabana Railroad), which operates a total of approximately 118 route-miles of line. The measures which the governor is authorized by the decree to employ are: (1) To sell to the national government, at par value, 49 per cent of the department's holdings in the railway and devote the proceeds of the security sale to the consolidation of the railway's indebtedness, the improvement of its physical properties and the extension of the line to a point on the lower Magdalena River known as Guarumo, where a new port would be constructed. (2) To contract a loan to provide the required funds, mortgage the railway property and pledge the departmental revenues to guarantee the obligation. (3) To negotiate with the National Railways Administrative Council for rental, operation and/or administration of the line.

According to consular reports, operation of the department's railway properties by the national body is the plan most likely to be followed. Should unforeseen obstacles prevent such an arrangement, due consideration will be given to the other suggested plans.

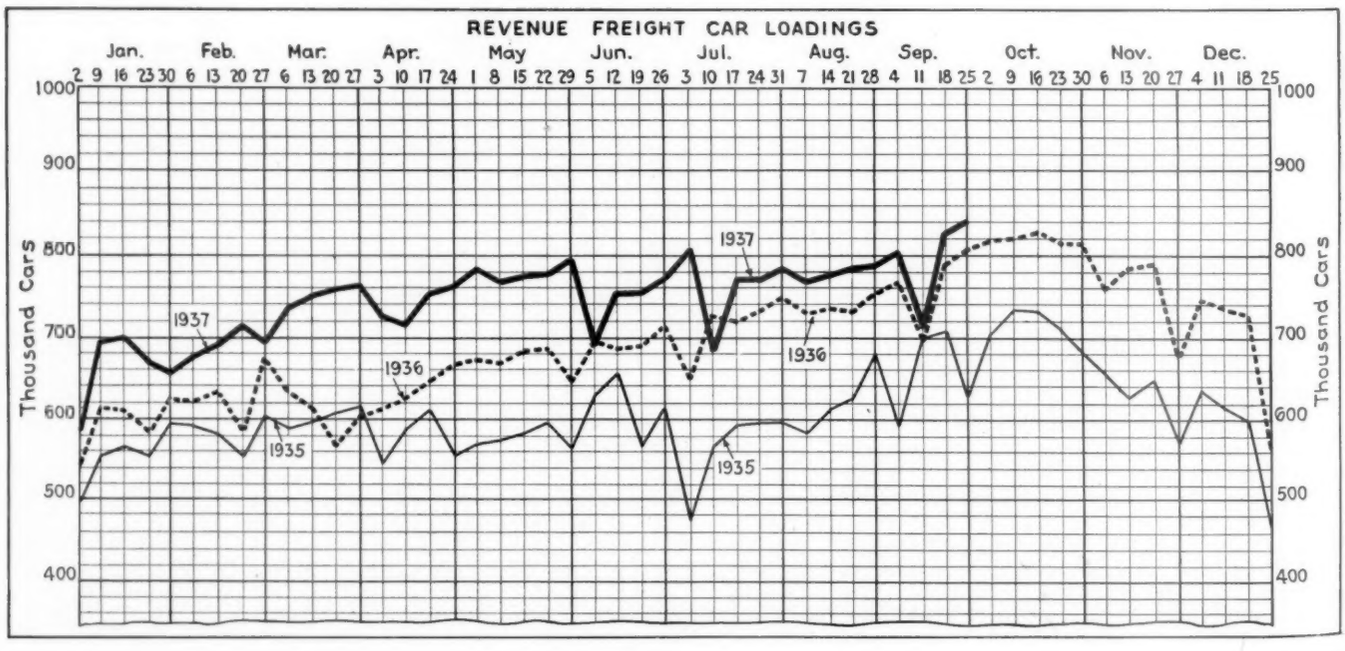
Superintendents Association Selects Committees

The American Association of Railroad Superintendents has organized its committee work for the year as follows:

Subject No. 1—Securing Maximum Utilization of Locomotives; E. C. Gegenheimer (superintendent, Penna., Altoona, Pa.), chairman.

Subject No. 2—The Superintendent's Responsibility for Public Relations, Including the Training of Employees Therein; W. E. Fuller (assistant to vice-president, C. B. & Q., Chicago), chairman.

Subject No. 3—Meeting Today's Demands in the Handling of Less Carload



Traffic; E. G. O'Brien (assistant to general superintendent transportation, C. P., Montreal, Que.), chairman.

Subject No. 4—Operating Problems of Fast Freight Train Service; P. M. Shoemaker (superintendent freight transportation, N. Y. N. H. & H., New Haven, Conn.), chairman.

Subject No. 5—The Selection and Early Training of Railway Employees to Meet the Problems of Expanding Organizations; R. C. Randall (superintendent, Erie, Jersey City, N. J.), chairman.

Subject No. 6—What Can a Superintendent Do to Secure Maximum Utilization of Freight Cars; J. W. Rea (general superintendent, Mo. Pac., Kansas City, Mo.), chairman.

Subject No. 7—What Can the Superintendent Do to Reduce the Hazard at Grade Crossings; R. W. Rogers (superintendent, S. A. L., Hamlet, N. C.), chairman.

June Accident Statistics

The Interstate Commerce Commission's completed statistics of steam railway accidents for the month of June, 1937, now in preparation for the printer, will show:

Item	Month of June 1937	Month of June 1936	6 months ended with June 1937	6 months ended with June 1936
Number of train accidents	611	556	4,544	4,216
Number of casualties in train, train-service and non-train accidents:				
Trespassers:				
Killed	283	291	1,193	1,218
Injured	294	278	1,222	1,274
Passengers on trains:				
(a) In train accidents*:				
Killed	....	....	....	5
Injured	25	188	246	405
(b) In train-service accidents:				
Killed	....	1	4	2
Injured	140	152	876	816
Travelers not on trains:				
Killed	....	1	8	8
Injured	62	53	393	390
Employees on duty:				
Killed	46	38	354	305
Injured	2,073	1,642	12,055	10,364
All other nontrespassers†:				
Killed	125	125	942	827
Injured	397	436	3,429	3,190
Total—All classes of persons:				
Killed	454	456	2,501	2,365
Injured	2,991	2,749	18,221	16,439

* Train accidents are distinguished from train-service accidents by the fact that the former cause damage of more than $150 to railway property.

† Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties *for all classes of persons, including both trespassers and nontrespassers,* were as follows:

Number of accidents	246	255	2,168	1,929
Persons:				
Killed	106	116	858	758
Injured	267	268	2,496	2,270

L. M. S. Building Program

The London, Midland & Scottish (Great Britain) is engaged in an extensive building program in both rolling-stock and structures. Equipment plans of the road call for the construction of 1160 freight cars, comprising 500 twenty-ton ore cars, 650 merchandise box cars and 10 eight-wheeled heavy-duty units. The busy industrial area of Sheffield will be afforded a general improvement in rail facilities, including new sidings, water storage tanks, and additional cars for the transportation of heavy industrial shipments and coal supplies, the whole project to cost £140,000 ($694,400).

Right-of-way improvements contemplated by the road include the building of two bridges, to cost £23,000 ($114,080), between Derby and Manchester on the London-Manchester main line, and the installation of six electrical coaling plants at Fleetwood, Lancashire, to cost £85,000 ($421,600). The latter will reduce the time required to coal bunkers at this West Coast fishing port by three hours.

A new modern coach shop and sidings, designed to augment the existing facilities at Euston station, London, and estimated to cost £500,000 ($2,480,000), marks the first step in a long-term plan to reconstruct the famous London terminal. The new shop, which will be fully equipped for vacuum-cleaning, steam-heating and battery charging, will provide accommodations for 600 coaches, with facilities for preparing, under cover, 200 coaches at a time. The first locomotive testing plant in Britain is now under construction jointly by the L. M. S. and the London & North Eastern at Rugby.

Train-Limit Facts

The Association of American Railroads' latest compilation of "Interesting Facts About the Railroads" is devoted to a listing of adverse developments, which would follow enactment by Congress of the pending bill to limit the length of freight trains to 70 cars. The statement follows:

To limit by federal law the length of freight trains to 70 cars, as now proposed in Congress, would increase by at least $125,000,000 annually out-of-pocket railway operating expenses in this country, on the basis of 1930 traffic.

Forty-five per cent of the car-miles handled by the railroads are produced in trains of more than seventy cars.

Although there was an increase from 1923 to 1936 of 16 per cent in the average length of trains, there has been a decrease in the same period of 61 per cent in the frequency of accidents to train and engine service employees.

Limitation of freight trains, as now proposed in Congress, would require 87,000,000 additional train-miles to handle the traffic which moved in 1930.

On the basis of the frequency of highway grade crossing accidents in relation to the number of trains operated, it is estimated that to limit the length of freight trains to 70 cars would result in 150 more persons being killed and 450 more persons injured at grade crossings each year.

The effectiveness of a large part of the improvements made in recent years by the railroads would be impaired if freight trains were limited to 70 cars.

That sentiment in the States is adverse to legislation arbitrarily limiting the length of freight trains is shown by the fact that in the past 14 years similar legislation has been introduced but failed of enactment in 30 states and in 85 separate legislative sessions.

Rail Affiliates Are Anthracite Industry's "Big Ten"

Pennsylvania's 10 principal anthracite producing companies, which "are affiliated with anthracite carrying railroads," account for $301,413,132 of the $407,458,116 valuation placed by the Commonwealth of Pennsylvania Anthracite Coal Industry Commission on all anthracite deposits and culm banks, and other property and equipment, used or useful in the production of anthracite in that state as of December 31, 1936.

This report on the financial condition and operations of the anthracite companies was prepared under the direction of C. V. Maudlin, managing director of the Bureau of Applied Science, Washington, D. C. It is one of several sections which will comprise the final report of the commission of which W. Jett Lauck is chairman. A previously-released section dealing with royalties was abstracted in the *Railway Age* of September 25, while that on the history of anthracite freight rates and their significance is expected to be ready for publication at an early date.

The present report discusses the financial set-up of the companies and asserts that commission's study "shows the definite need for a thorough overhauling of the accounting methods now used by the companies, to the end that the reports will reflect more nearly the proper amounts for depletion, depreciation and other items of cost; and the elimination of investments and other items which are not used or useful in the mining and preparation of anthracite and which are now a serious financial burden to the operating companies."

N. & W. Officer Urges Roads to Fight

Declaring that "it is high time for the railroads to fight, and put a stop to these illogical legislative prescriptions which place an embargo on railway progress," George Dunglinson, Jr., assistant vice-president of the Norfolk & Western, Roanoke, Va., asserted in an address delivered on September 30 at the annual convention of Norfolk & Western surgeons at the Pennsylvania hotel, New York City, that if the bill to limit trains to 70 cars is passed by Congress, "it will increase train accidents, impair service and add $100,000,000 to railroad expenses, which would inevitably be passed on to the shipper and consumer in higher freight rates." In a review of past developments in governmental control of transportation matters which, he claimed, laid the groundwork for such contemporary "make-work" legislation, Mr. Dunglinson stated that the "modern jungle of governmental restrictions, laws and orders, formulas and theories, rulings and interpretations, investigations,

bureaus and commissions" have sprung from the "seed of railway legislation planted by Congress 50 years ago."

Returning to his discussion of the train-limit bill, the speaker prophesied: "If this ill-advised measure becomes law, and the railroads are to survive, they would be forced to cut operating expenses to the bone. There would be less maintenance of tracks and roadbeds, fewer repairs to rolling stock and other facilities and a drastic decrease in railroad purchases and improvements. It is obvious that these curtailments would mean less jobs for railway employees and for workers in the railway supply business, all of which would be reflected in the economic situation generally."

Auto Hits Train at Night; Carrier Held Not Liable

When an automobilist crashes into a train temporarily halted, at night, on a grade crossing for switching operations, but carrying regulation front and rear lights, he cannot recover damages from the carrier, according to a recent decision by Ninth Circuit Court of Appeals, reversing judgment for the plaintiff in the Federal District Court of Montana. According to the testimony rendered in the case, a seven-car "dead-head" passenger train of the Northern Pacific, operating near Butte, Montana, was stopped on a highway crossing at about 10 p.m. to allow a member of the crew to get off, "line up" the switch and return to the train. The locomotive and first car only had passed the crossing, while the second car blocked the roadway. The cars were of the usual color—black or nearly so and un-lighted. The engine and rear end of the train were properly lighted. During the brief halt an automobilist drove his vehicle against the side of the second car, sustaining injuries to himself and the car, for which he sued the railroad.

The higher court held that there was no evidence that the train was improperly lighted; that it stood on the crossing for more than a minute before the collision; that the locomotive whistle was not properly sounded upon approaching the crossing; or that the automatic signals, which consisted of two automatic wig-wags and a warning bell, were at any time out of order. The court concluded that the evidence presented did not establish negligence of the railroad, but actually that the plaintiff's own negligence caused the collision, the testimony showing that, despite the darkness of the night, and the blackness of the car and the highway, the coach could have been seen by the plaintiff in time to avoid a collision.

Transcontinental-Mountain Pacific Phase of Ex Parte 115 Submitted

That phase of Ex Parte 115 having to do with proposed increases in transcontinental-Mountain Pacific rates now stands submitted to the Interstate Commerce Commission, following oral argument held before the commission at Washington, D. C., on September 30. The final hearing on this phase of the case was held on September 28, and evidence offered therein brought data in the record to the end of July which was just before the wage increase granted to non-operating employees became effective.

The failure of the railroads to present evidence as to anticipated increases in costs from the wage adjustment aroused the interest of the sitting commissioners, including Commissioner Lee who asked if such omission meant that the railroads are "coming back for another increase." To this J. E. Lyons, commerce attorney for the Southern Pacific, replied that he had no information on the point. Mr. Lyons, who argued the case on behalf of the S. P. and the Union Pacific, devoted his time to a discussion of the economic situation of the roads as disclosed in the testimony submitted at the September 28 hearing by L. G. Reymiller of the Statistical Bureau of the Western Lines.

Mr. Reymiller's testimony was in explanation of an exhibit bringing previously-submitted statistical data concerning western railroads down to July 30. One of his tables showed that the average annual shortage under a 5.75 per cent return was $97,800,000 in the five years 1925-29; and $257,000,000 in the seven-year period 1930-36. The exhibit also dealt with under-maintenance which on 1936 mileage was placed at $71,100,000 on way and structures and $67,400,000 on equipment. Shipper attack on the railroad proposals consisted in the main in representations of counsel for Swift & Company, Armour & Company and Iowa packers.

Grade Crossing Accidents Increase

A total of 858 persons lost their lives in the first six months of 1937, as a result of accidents at highway-railroad grade crossings, according to the Safety Section, Association of American Railroads. This was an increase of 100 compared with the number of fatalities in the same period last year and an increase of 128 compared with the corresponding period in 1935. Persons injured totaled 2,496 for the first half of 1937, an increase of 226 compared with the corresponding period in 1936 and an increase of 331 compared with the same period in 1935. Accidents at grade crossings in the six months' period this year numbered 2,168, an increase of 239 compared with the six months' period last year and an increase of 339 over 1935.

Fatalities resulting from grade crossing accidents in June totaled 106, a decrease of 26 compared with the preceding month and a decrease of ten compared with June, 1936. At the same time, 267 persons were injured in June, compared with 371 persons in May and 268 persons in June the preceding year. Reports showed 246 accidents at grade crossings in June, compared with 313 in the preceding month and 255 in June, 1936.

"Accidents and casualties at highway grade crossings fluctuate according to the number of trains operated," says the A.A.R. "Pending in Congress is a bill to limit the length of freight trains to 70 cars. Should this bill be enacted, the railroads would be required to operate a larger number of freight trains in order to handle the commerce of the country. On the basis of the frequency of highway grade crossing accidents in relation to the number of trains operated, it is estimated by the Safety Section that the additional train operations made necessary by such a limit upon the length of trains would increase the number of fatalities from grade crossing accidents approximately 150 annually, and the number of persons injured by 450 each year."

R.F.C. Threatens D. & R. G. W.

In a brief filed with the Interstate Commerce Commission the Reconstruction Finance Corporation has reiterated its threat to have the Denver & Salt Lake and the Denver & Salt Lake Western merged as an independent system unless it gets full satisfaction for its loan to the Denver & Rio Grande Western. The brief, which was incorporated as a part of the D. & R. G. W. reorganization case, pointed out that the RFC has "extensive powers of control" over the Denver & Salt Lake and the Denver and Salt Lake Western. In pointing out provisions of the loan agreements with the Denver & Rio Grande Western wherein more than 99 per cent of the D. & S. L.'s stock is pledged with the RFC and the government lending agency is placed in a position of being able to control also the Salt Lake Western, the Finance Corporation said:

"Obviously, Reconstruction may reasonably expect to receive in a reorganization of Rio Grande either cash or the cash equivalent for its two loans of $3,631,000 and $3,110,850, respectively, since in a merger of Salt Lake and Salt Lake Western, for an original investment of $6,741,850 and accrued interest, it would get practically the entire ownership and control of the unified Salt Lake-Salt Lake Western system. The sale of such ownership and control to some other road, such as the Burlington, would enable Reconstruction to work all its loans out, without loss. Such a sale might easily result in a substantial profit to Reconstruction on all of its loan for, as has already been pointed out, the properties have an immense strategic value."

Other briefs which have recently been filed in the D. & R. G. W. reorganization case include those of the management of the road, the Untermeyer family group, the Missouri Pacific, the Chase National Bank, and the City Bank Farmers Trust Company of New York.

Still Going Strong

At a meeting of the American branch of the Newcomen Society, held at the Rittenhouse Club, Philadelphia, on Tuesday, October 5, Samuel M. Vauclain, chairman of the board of the Baldwin Locomotive Works, was the guest of honor. Conrad N. Lauer, president of the Philadelphia Gas Works Company and chairman of the Philadelphia committee of the Newcomen Society, presided, and Duncan J. Kerr, president of the Lehigh Valley, acted as toastmaster. Mr. Vauclain spoke upon "Mass Production Within One Lifetime." In an intimate way he told of his experiences in mass production, starting with his boyhood days, on through his apprenticeship and early experience in railroad shops, and in his long association with the Baldwin Locomotive Works. In addition to the

remarkable results secured in speeding up production of locomotives, he recited the accomplishments of mass production in furnishing rifles, gun mounts and other munitions during the World War.

In his recital he referred frequently to his boyhood days on the farm, when he got his first appreciation of mass production in the shelling of corn for the hogs. "The shelling of corn," said Mr. Vauclain, "was somewhat of a family duty and all participated, resulting in calloused hands and weary arms. I concluded this was no way to shell corn expeditiously and without damage to my hands. My youthful brain caused me to think of an easy device which consisted of an ordinary garden spade laid flat on the edge of the tub with the handle resting on the floor. Straddling the spade I drew the ear of corn across its edge, which resulted in all the others retiring and leaving the matter of shelling corn entirely up to me. Quantity production or mass production or whatever you may see fit to call it was accomplished by a device, simple in itself, and very easy to operate. It was my first device to save labor, shorten time, produce in quantity. My success in this endeavor caused me to approach any task allotted me with a determination to shorten time, improve quality, and reduce cost."

Car Department Group Elects

The Car Department Officers' Association, during its annual meeting at the Sherman Hotel, Chicago, on September 28 and 29, elected the following officers to serve for the ensuing year: President, K. F. Nystrom, superintendent car department, Chicago, Milwaukee, St. Paul & Pacific, Milwaukee, Wis.; First Vice-President, E. J. Robertson, superintendent car department, Minneapolis, St. Paul & Sault Ste. Marie, Minneapolis, Minn.; Second Vice-President, C. J. Nelson, superintendent of interchange, Chicago Car Interchange Bureau, Chicago, Ill.; Third Vice-President, W. E. Dunham, general superintendent car department, Chicago & North Western, Chicago; Fourth Vice-President, J. S. Acworth, supervisor of equipment, General American Transportation Corporation, Chicago; Secretary and Treasurer, F. L. Kartheiser, chief clerk, mechanical department, Chicago, Burlington & Quincy.

The new board of directors consists of: H. H. Urbach, mechanical assistant to executive vice-president, Chicago, Burlington & Quincy, Chicago; C. Claudy, master car builder, Grand Trunk Western, Battle Creek, Mich.; P. P. Barthelemy, assistant master car builder, Great Northern, St. Paul, Minn.; S. O. Taylor, master car builder, Missouri Pacific, St. Louis, Mo.; G. C. Christy, superintendent car department, Illinois Central, Chicago; H. H. Golden, superintendent of the A.A.R. interchange and accounting bureau, Louisville & Nashville, Louisville, Ky.; G. E. McCoy, assistant general superintendent motive power and equipment, Canadian National, Toronto, Ont.; E. M. Wilcox, superintendent of equipment, New York Central, Chicago; J. E. Keegan, chief car inspector, Pennsylvania, Chicago; C. E. Strain, superintendent car department, Pere Marquette, Grand Rapids, Mich.; John Gogerty, assistant superintendent motive power and machinery, Union Pacific; J. P. Morris, chief mechanical engineer, Atchison, Topeka & Santa Fe, Chicago; O. F. Davisson, superintendent Armour Car Lines, Chicago; J. J. Root, Jr., assistant to vice-president, Union Tank Car Company, Chicago; J. W. Fogg, vice-president, MacLean-Fogg Lock Nut Company, Chicago; L. H. Gillick, assistant to vice-president, Vapor Car Heating Company, Chicago.

Pacific Northwest Board Predicts Traffic Decline

A decrease of 5.2 per cent in carloadings for the fourth quarter of 1937 as compared with the corresponding period in 1936, was forecast for Washington, Montana, Idaho, Oregon and California by commodity committee reports submitted at the twelfth annual and thirty-seventh regular meeting of the Pacific Northwest Advisory Board at Spokane, Wash., on September 29. A decrease of 21.9 per cent is expected in the carloadings of manufactured miscellaneous commodities including agricultural implements, automobiles and trucks, castings, machinery and boilers, chemicals and explosives, fertilizer, furniture and paper, paper products and pulp, while a decrease of 12 per cent is expected in the shipment of construction and building materials, including lumber and forest products, lime, iron and steel, gravel, rock and sand, clay products and cement.

The legislative division of the Transportation committee sounded a note of warning in its report on national transportation legislation. After reporting on the individual bills awaiting consideration at the January session of congress, the committee stated, "Many bills affecting transportation remain for consideration at the January session, and unless there is an awakening of the public there is grave danger that some of these "more-work" bills may pass. The effect is of major importance to the shippers and the public. In fact, if the people of this country understood that far in the background the ulterior purpose of these 'more-work' bills is to drive this country into government ownership of the railroads, to which is always attached the inefficiency and waste of government, they no doubt would manifest a real interest." The committee further stated that the conservative estimate of the cost of the more important bills is $1,161,000,000 annually to the operating expense of the railroads, which is approximately twice the net income of all Class I railroads in 1936. "To anyone familiar with the operation of a common carrier railroad," the committee said, "it is obvious that these bills will not tend to increase the present high standard of efficiency or safety of the railroads, and their inevitable effect would be only to increase the cost of transportation, which quite naturally means higher freight rates to the public."

The demurrage and storage division of the Transportation committee recommended that consideration be given to amending the demurrage rules to provide for a five-day week because of the growth of the five-day week in industry.

Charles Donnelly, president of the Northern Pacific, was the guest speaker at a luncheon sponsored by the Spokane Chamber of Commerce, the Transportation Club and the Advertising and Sales Association.

Railroads to Participate in Golden Gate Exposition

Eight railroads and the Railway Express Agency have already contracted or negotiated for exhibition space at the Golden Gate International Exposition, to be held on Treasure Island in San Francisco Bay during 1939. The evolution of travel and transportation will be unfolded in a large building to be known as Vacationland.

In this building will be shown the exhibit of the Union Pacific, which will emphasize Sun Valley Lodge and the scenic beauty of Utah and Idaho; that of the Chicago & North Western and that of the Railway Express Agency which will feature western vacationing and those of the Chicago, Milwaukee, St. Paul & Pacific, the Chicago, Burlington & Quincy, the Western Pacific and the Pennsylvania, which are now negotiating for space.

In addition, other railroad exhibits will be shown in individual structures. The Southern Pacific and the Atchison, Topeka & Santa Fe are contemplating separate structures immediately adjoining the main transportation building.

One of the unusual features in the construction of the exhibition is the fact that although the site is an island connected to the mainland only by boat and a motor highway by way of the San Francisco-Oakland Bay Bridge, the majority of building materials to date have been

In This Model of Treasure Island, the Transportation Building Appears as the Long Structure Beyond the Steeple

brought in by rail. A railroad landing apron has been built into one of the contractors' wharves and nearly two miles of track laid to serve the 400-acre grounds. To date, 300 carloads of lumber, 10,000 piles, 5,000 tons of steel and 30,000 cubic yards of concrete aggregate have been ferried to the island.

August's N. O. I. 22.2 under 1936

(*Continued from page 495*)

in 1936, but a drop of 21.3 per cent under 1930's $3,572,873,894. Operating expenses for the eight months amounted to $2,093,345,834 compared with $1,915,174,958 for the same period in 1936, and $2,701,718,583 in 1930—9.3 per cent greater than the former, but 22.5 per cent below 1930.

Class I roads in the first eight months of 1937 paid $222,573,518 in taxes compared with $204,802,375 in the same period in 1936, and $240,197,403 in the same period in 1930. The August tax bill amounted to $29,643,343, an increase of $1,645,660 or 5.9 per cent above August, 1936. Eighteen Class I roads failed to earn expenses and taxes in the first eight months, of which eight were in the Eastern district, two in the Southern district, and eight in the Western district.

Class I roads in the Eastern district for August had a net railway operating income of $26,974,801 compared with $34,462,906 for August, 1936, and $44,949,205 for August, 1930. The eight months net in the Eastern district was $237,936,809, or 3.02 per cent, as compared with $228,329,106 or 2.91 per cent in 1936, and $297,728,078 or 3.92 per cent in 1930. Gross in the Eastern district for the eight months totaled $1,411,350,235, an increase of 8.1 per cent compared with 1937, but a decrease of 21.1 per cent compared with 1930; operating expenses totaled $1,013,029,049, an increase of 8.6 per cent above 1936, but a decrease of 24.2 per cent under 1930.

The Southern district net for August was $4,473,486 compared with $6,609,395 for August, 1936, and $5,820,065 for August, 1930. For the first eight months roads in the Southern district reported a net of $51,331,034, or 2.52 per cent; for the same period in 1936, their net railway operating income amounted to $45,094,523, or 2.22 per cent, and for the same period in 1930 it was $54,190,288, or 2.56 per cent. Gross in the Southern district for the first eight months amounted to $349,547,234, an increase of 9.1 per cent compared with the same period in 1936, but a decrease of 20.7 per cent under the same period in 1930; operating expenses totaled $262,134,243, an increase of 7.8 per cent above the same period in 1936, but a decrease of 25.2 per cent under 1930.

For August the roads in the Western district reported a net railway operating income of $18,859,594 compared with $23,551,911 for August, 1936, and $43,558,201 for August, 1930. For the first eight months those roads had a net railway operating income of $118,949,385, which was at the rate of 1.98 per cent; for the same eight months in 1936, the railroads in that district had a net railway operating income of $90,937,890, or 1.52 per cent, and for the same period in 1930 it was $193,344,532 or 3.17 per cent. Gross in the Western district for the eight months amounted to $1,050,673,268, an increase of 11.1 per cent above the same period in 1936, but a decrease of 21.8 per cent under 1930; operating expenses totaled $818,182,542, an increase of 10.6 per cent compared with the same period in 1936, but a decrease of 19.4 per cent under 1930.

P & S Division Selects Committees

The Purchases and Stores division, A.A.R., has announced the selection of subjects for study this year and a tentative list of the committee membership. Five new subjects, Special Purchasing Statistics; Efficient Methods of Transporting Company Materials and Prompt Unloading of Equipment; Receiving Records; Stores Organization, Office Practices and Records, and Quantity Price Differentials have been selected, and three committees, Purchasing and Store Department Manual; Shop Manufactured Materials, and Terminal Railway Storekeeping, have been revived. An advisory committee consisting of the past chairmen of the division, under the chairmanship of E. A. Clifford, general purchasing agent, C. & N. W., and a special purchasing committee consisting of nine purchasing officers, under the chairmanship of A. C. Mann, vice-president, I. C., have been continued, as well as the so-called group organization for holding purchasing and stores meetings in different territories. New chairmen have been selected for all committees, with the exception of the committees on scrap handling, general reclamation, stores expense, forest products, fuel, stationery and printing and simplification. The appointments to the new and re-organized special and subject committees are as follows:

Special Purchasing Statistics: C. E. Walsh, general purchasing agent, Penna.

Purchasing and Stores Manual: P. L. Grammer, assistant purchasing agent, Penna., chairman; W. E. Brady, stores accountant, A. T. & S. F.; W. R. Culver, superintendent of stores, C. & O.; W. S. Morehead, general storekeeper, I. C.; J. C. Kirk, assistant general storekeeper, C. R. I. & P., chairman ex-officio.

Standard Material Classification: C. B. Hall, stores manager, Penna., chairman; S. L. Bouque, assistant to general storekeeper, S. P.; S. A. Hayden, general storekeeper, M-K-T; W. S. Riach, chief clerk to general storekeeper, A. T. & S. F.; C. H. Murrin, general storekeeper, L. & N., chairman ex-officio.

Railroad Scrap: W. J. Sidey, supervisor scrap and reclamation, L. V., chairman; E. J. Becker, district storekeeper, S. P.; D. D. Canavan, general foreman reclamation plant, B. & M.; J. J. Collins, supervisor scrap and reclamation, Erie; J. T. Goodloe, division storekeeper, Southern; R. R. Kane, division storekeeper, L. & N.; C. L. McIllvaine, assistant purchasing agent, Penna.; C. E. Reasoner, assistant district storekeeper, M-K-T; T. H. Ryan, assistant purchasing agent, Wabash; J. A. Sims, care purchasing department, C. & N. W.; H. E. Warren, manager purchases and stores, G. M. & N.; J. C. Kirk, assistant general storekeeper, C. R. I. & P., chairman ex-officio.

General Reclamation (Joint with Mechanical and Engineering divisions): A. L. Prentice, manager scrap and reclamation, N. Y. C., chairman; I. C. Bon, superintendent scrap and reclamation, Wabash; E. R. Casey, superintendent reclamation, Union Pacific; R. E. Hamilton, supervisor reclamation, C. & O.; T. J. Hegeman, superintendent scrap and reclamation, C. B. & Q.; W. P. Stewart, supervisor scrap and reclamation, I. C.; Peter Young, superintendent of reclamation, A. T. & S. F.; J. C. Kirk, assistant general storekeeper, C. R. I. & P., chairman ex-officio.

Stock Report—Store Expense—Inventory: M. E. Baile, assistant supply agent, M. P., chairman; W. E. Brady, stores accountant, A. T. & S. F.; U. S. Cornelius, traveling storekeeper, Southern; J. P. Hogan, chief accountant, Erie; F. J. McMahon, general storekeeper, New York Central; J. F. Riddle, analyst, stores department, Penna.; W. L. Wheeler, assistant general storekeeper, C. & N. W.; O. A. Donagan, general storekeeper, B. & M., chairman ex-officio.

Forest Products: A. J. Neault, assistant general purchasing agent, C. & N. W., chairman; D. R. Elmore, assistant to general manager, Fruit Growers Express; F. W. Holt, assistant purchasing agent, Erie; L. W. Kistler, superintendent treating plants, St. L.-S. F.; J. R. McGrenera, general tie and timber inspector, A. T. & S. F.; J. E. McNelley, chief tie and lumber supervisor, A. C. L.; E. H. Polk, assistant purchasing agent, Southern Pacific; G. H. Robison, purchasing agent, Union Pacific; F. A. Schack, fuel and timber agent, G. N.; F. C. Sheehan, assistant purchasing agent, N. Y., N. H. & H.; W. A. Summerhays, manager, forest products bureau, I. C.; James Young, assistant purchasing agent, Penna.; C. C. Warne, purchasing agent, N. Y. C., chairman ex-officio.

Supplies for Highway Motor Vehicles: J. H. Lauderdale, general purchasing agent, M. P., chairman; James Deery, assistant purchasing agent, Penna.; E. S. Jamieson, assistant general purchasing agent, U. P.; R. D. Long, purchasing agent, C. B. & Q.; C. E. Smith, vice-president, N. Y., N. H. & H., chairman ex-officio.

Shop Made Materials: B. T. Adams, district storekeeper, I. C., chairman; R. W. Hall, division storekeeper, L. & N.; A. N. Laret, assistant to chief purchasing officer, St. L.-S. F.; W. L. Oswalt, works storekeeper, Penna.; C. J. Vanderbosch, district storekeeper, B. & O.; L. P. Krampf, supply agent, M. P., chairman ex-officio.

Fuel: P. A. Hollar, fuel purchasing agent, Penna., chairman; E. S. Bonnet, fuel engineer, N. Y. C.; E. A. Busk, assistant to general purchasing agent, C. & N. W.; Robert Collett, fuel agent, St. L.-S. F.; A. E. Johnson, fuel agent, C. M. St. P. & P.; G. E. Lyman, special clerk, purchasing department, I. C.; M. H. McGlynn, fuel agent, C. R. I. & P.; J. E. May, fuel agent, B. & O.; C. E. Smith, vice-president, N. Y., N. H. & H., chairman ex-officio.

Forecasting Requirements: C. K. Reasor, assistant manager of stores, Erie, chairman; C. D. Baldwin, purchasing agent, Bang. & Aroos.; B. W. Griffith, general storekeeper, N. Y. C.; A. B. Lackey, division storekeeper, Southern.

Pricing Methods: G. J. Hunter, traveling material supervisor, A. T. & S. F., chairman; N. B. Coggins, division storekeeper, C. N. O. & T.; L. L. Studer, division storekeeper, M. P.; G. E. Tallmadge, assistant general storekeeper, G. N.; E. G. Walker, assistant general purchasing agent, A. T. & S. F., chairman ex-officio.

Purchasing Organization and Records: J. H. James, purchasing agent, P. & L. E., chairman; C. S. Douglass, assistant to purchasing agent, N. & W.; F. E. Driscoll, purchasing agent, Erie; J. S. Fair, Jr., office manager, purchasing agent's office, Penna.; A. B. Kast, assistant to general purchasing agent, L. & N.; H. P. Millar, chief clerk to general purchasing agent, C. P.; M. C. Nystrom, assistant purchasing agent, S. P.; C. R. Painter, purchasing agent, N. Y., N. H. & H.; H. M. Rainie, purchasing agent, B. & M.; A. A. Taylor, assistant general purchasing agent, M. P.; E. G. Walker, assistant general purchasing agent, A. T. & S. F., chairman ex-officio.

Stationery and Printing: B. B. Melgaard, assistant to purchasing agent, C. M. St. P. & P., chairman; H. Carter, general stationery storekeeper, N. Y. C.; W. J. Duff, stationer, A. T. & S. F.; J. L. Gorsuch, stationer, W. Md.; W. W. Griswold, stationer, C. R. I. & P.; T. J. Kane, stationery storekeeper, C. N.; E. H. Nicodemus, stationery storekeeper, Penna.; G. E. Perrot, stationery supervisor, S. A. L.; J. L. Bennett, purchasing agent, Cent. of Ga., chairman ex-officio.

Material Handling: A. S. McKelligon, general storekeeper, S. P., chairman; J. M. Lowe, storekeeper, N. & W.; J. V. Miller, assistant general storekeeper, C. M. St. P. & P.; H. E. Ray, general storekeeper, A. T. & S. F.; W. F. Redman, traveling storekeeper, C. & N. W.; H. M. Smith, general storekeeper, N. P.; S. P. Warmack, general storekeeper, I-G N.; G. M. Betterton, purchasing agent, S. P., chairman ex-officio.

Terminal Storekeeping: J. K. McCann, inspector of stores, C. B. & Q., chairman; R. H. Bruckert, storekeeper, Ky. & Ind. Term'l; A. F. Campbell, general storekeeper, Ill. Terminal; F. A. Murphy, district storekeeper, B. & O.; H. A. Smith, purchasing agent, Term'l R. R. Ass'n St. L.; C. W. Yeamans, purchasing and supply agent, C. & W. I.; L. P. Krampf, supply agent, M. P., chairman ex-officio.

Transporting Company Materials: R. C. Harris, general storekeeper, Penna., chairman; E. A. Carlson, general storekeeper, P. M.; Clyde Cocke, purchasing agent, N. & W.; F. P. Dugan, division storekeeper, I. C.; A. M. Lemay, inspector of stores, C. M. St. P. & P.; G. A.

Goerner, general storekeeper, C. B. & Q., chairman ex-officio.

Commissary Supplies: L. V. Hyatt, commissary purchasing officer, M. P., chairman; W. J. Farrell, secretary, P. & S. division, A.A.R.; P. L. Grammer, assistant purchasing agent, Penna.; J. F. McAlpine, assistant purchasing agent, C. B. & Q.; T. K. Russell, assistant to dining service superintendent, I. C.; E. A. Clifford, general purchasing agent, C. & N. W., chairman ex-officio.

Material Receiving Records: J. S. Genther, general storekeeper, L. & N. E., chairman; R. H. Lloyd, assistant to general storekeeper, D. L. & W.; D. H. Phebus, district storekeeper, C. M. St. P. & P.; W. E. Ruston, traveling storekeeper, B. & M.; E. W. Walther, general storekeeper, B. & O., chairman ex-officio.

Sale of Surplus: M. E. Towner, general purchasing agent, W. Md., chairman; G. O. Beale, chief purchasing and stores officer, C. & O.; U. K. Hall, general storekeeper, U. P.; W. B. Hall, purchasing agent, D. & R. G. W.; A. W. Munster, vice-president, B. & M.; G. H. Walder, purchasing agent, C. M. St. P. & P.; E. M. Willis, purchasing agent, N. P.; C. C. Warne, purchasing agent, N. Y. C., chairman ex-officio.

Storage Facilities: L. F. Duvall, assistant general storekeeper, A. C. L., chairman; G. W. Alexander, general storekeeper, Cent. of Ga.; J. J. McKinnon, storekeeper, B. & M.; F. W. Reynolds, division storekeeper, B. & O.; L. C. Thomson, manager of stores, C. N.; C. B. Tobey, general storekeeper, L. V., chairman ex-officio.

Maintenance of Way and Construction Materials: J. L. Quarles, general storekeeper, C. & O., chairman; J. A. Allen, storekeeper, C. B. & Q.; C. B. Chapman, traveling stores inspector, Southern; J. W. Gorsuch, reporting storekeeper, Penna.; Frank McGrath, traveling storekeeper, B. & M.; C. L. Wakeman, general storekeeper, Wabsh; J. W. Watkins, assistant to general storekeeper, L. V.; O. A. Donagan, general storekeeper, B. & M., chairman ex-officio.

Standard Packages: F. S. Austin, assistant purchasing agent, N. Y. C., chairman; J. L. Brown, purchasing agent, S. A. L.; John Carmichael, superintendent of stores, W. Md.; J. T. Kelly, general storekeeper, C. M. St. P. & P.; L. L. King, assistant purchasing agent, I. C.; I. H. Lance, general storekeeper, D. L. & W.; G. W. Leigh, purchasing agent, M. St. P. & S. S. M.; T. E. Sullivan, electrical storekeeper, C. B. & Q.; C. H. Murrin, general storekeeper, L. & N., chairman ex-officio.

Stock Records: V. N. Dawson, assistant general storekeeper, B. & O., chairman; R. G. Benson, classification inspector, Erie; H. J. Blum, traveling storekeeper, M-K-T; W. H. Floyd, stores inspector, C. R. I. & P.; D. H. Reed, traveling storekeeper, Southern; S. Sneddon, general storekeeper, C. N.; Grover Wonnell, storekeeper, Penna.; G. A. Goerner, general storekeeper, C. B. & Q., chairman ex-officio.

Stores Organization and Records: E. W. Peterson, general storekeeper, Bang. & Aroos. chairman; L. Kilmer, general storekeeper, G. T. W.; F. J. McNulty, chief clerk to vice-president, B. & M.; W. H. Morris, general storekeeper, Reading; C. L. Nash, general storekeeper, Fruit Growers Express; E. G. Roberts, chief clerk to general storekeeper, C. R. I. & P.; E. W. Walther, general storekeeper, B. & O., chairman ex-officio.

Price Differentials: O. L. Browne, assistant to purchasing agent, A. C. L., chairman; L. J. Ahlering, purchasing and stores agent, C. & E. I.; W. A. Clem, purchasing agent, Reading; F. I. Foley, general storekeeper, N. Y., N. H. & H.; J. W. Hagerty, general supervisor, purchasing department, Penna.; T. A. Hodges, general storekeeper, S. A. L.; C. C. Hubbell, general purchasing agent, D. L. & W.; E. A. Jones, purchasing agent, L. V.; F. W. Pettit, assistant to general purchasing agent, W. Md.; E. J. Lamneck, purchasing agent, Penna., chairman ex-officio.

Simplification and Standardization: A. G. Follette, general material supervisor, Penna., chairman; W. I. Dixon, supervisor material standards, M. P.; E. A. Ernst, traveling storekeeper, C. R. I. & P.; J. H. Geary, classification inspector, Erie; W. M. Hinkey, material supervisor, B. & O.; J. L. Irish, assistant general storekeeper, U. P.; J. U. King, general storekeeper, A. C. L.; F. J. McGuinness, superintendent of stores, D. L. & H.; W. W. Williams, chief clerk to general storekeeper, N. Y. C.; H. H. Wittekind, inspector of stores, S. P.; C. B. Tobey, general storekeeper, L. V., chairman ex-officio.

THE REICH locomotive factory at Munich, Germany, is building four 102-ton electric locomotives for service on the 1,500 miles of 15,000 volt electrified lines in Bavaria. The engines will have a 1-D-1 wheel arrangement, will develop 6,000 hp. each, and will haul a 17-coach train at speeds up to 100 m.p.h.

Equipment and Supplies

Less Equipment Bought in Sept.

Orders for 8 locomotives and 1,195 freight cars booked during month; no passenger cars bought

Orders for 8 locomotives and 1,195 freight cars placed by domestic carriers during September and reported in issues of the *Railway Age* for that period bring the totals for the first nine months of the year to 278 locomotives and 47,805* freight cars, while the passenger-train car total remains at the August figure of 471 cars, as no orders in this category were placed during the month. The total orders for motive power placed thus far in 1937 exceed by over 50 per cent any of the 12-month totals of 1931 to 1935, inclusive. The 8 locomotives—7 Diesel-electric, 1 steam—ordered during the month, however, constitute a considerable decrease from the 39 units ordered in August of this year and the 24 locomotives purchased in September, 1936. At the end of the month the carriers were contemplating the purchase of 3 steam and 2 Diesel-electric locomotives, while railways in South Africa and Brazil were planning large motive-power purchases.

While the 1,195 freight cars ordered during the month fail to reach the 1,490 mark set in August and are almost two-thirds less than the 3,100 total ordered during September, 1936, the total for the year thus far exceeds the 12 months' total of 1930 to 1935, inclusive. In addition, domestic buyers plan the purchase of 467 freight cars, while orders for 340 cars are anticipated in the export field.

Though no passenger cars were ordered, September suffers little in comparison with August, when only 1 passenger car was purchased, or with September, 1936, when the market for this type of rolling stock was equally inactive. And the 471-car total for the year thus far already exceeds the 12-month figure for any year since 1930. At the end of September, domestic carriers considered the purchase of 56 additional passenger cars.

The 18,400 tons of steel rail ordered during the month bring the nine months' total to 91,917 tons.

* This total has been revised to conform with a correction published in the *Railway Age* for September 18, page 389, which noted the false inclusion of an order for 1,000 freight cars in July's total.

SIGNALING

THE CHICAGO, NORTH SHORE & MILWAUKEE has ordered the necessary materials from the Union Switch & Signal Co. for the installation of a complete alternating current automatic block signaling system on its Skokie Valley division, between Dodge avenue and North Chicago Junction, Ill. The order also includes the materials for re-arranging the control of 16 automatic gate crossings and 7 wigwag signals, as well as materials for carrying the automatic signal system through an existing mechanical interlocking and two electric interlocking plants. The work involves the installation of 60 Style N-2 color light signals with instrument cases, 70 U-5 switch circuit controllers, 50 switch indicators, 225 alternating current relays, 50 transformers, 75 impedance bonds and reactors, etc. The field installation work is being carried out by the railroad company's forces.

Domestic Equipment Orders Reported in Issues of the Railway Age in September, 1937

LOCOMOTIVES

Date	Name of Company	No.	Type	Builder
Sept. 25	Baltimore & Ohio	1	Steam	Company Shops
Sept. 25	Lehigh Valley	6	Diesel-electric Sw.	Electro-Motive Corp.
Oct. 2	Pennsylvania	1	Diesel-electric	Electro-Motive Corp.

FREIGHT CARS

Sept. 4	Utah Copper Co.	3	Caboose	Pacific Car & Foundry
Sept. 11	U. S. Navy Dept.	2	Flat	Haffner-Thrall Car Co.
Sept. 18	Minneapolis, St. Paul & Sault Ste. Marie	100	Box	Pullman-Standard
Sept. 25	General Chemical Co.	90	Tank	General American
Oct. 2	Illinois Central	1,000	Hopper	General American

Supply Trade

A. F. McCoole has been appointed manufacturer's representative of the **Positive Rail Anchor Company,** Chicago, with headquarters in the Railway Exchange building, St. Louis, Mo.

A. R. Johnson, manager of the Detroit, Mich., sales office of **Cutler-Hammer, Inc.,** has been appointed manager of the merchandising sales division of this company in charge of all distributor activity, with headquarters at Milwaukee, Wis.

R. C. Flodin, who has been in charge of industrial tractor and power unit sales through branches, dealers and manufacturers of the **International Harvester Company,** Chicago, has been placed in charge of co-ordinating the work of the engineering, manufacturing and sales department as applied to the industrial and

agricultural power lines, and has been succeeded by **Neal Higgins,** who has been engaged in the promotion of tractor and power equipment sales.

F. O. Schramm, manufacturers' representative, 11 W. 42nd street, New York, has added to his accounts representation of the **Grinder division** of the **Hammond Machinery Builders, Inc.,** Kalamazoo, Mich.

Bonnell W. Clark, vice-president and general manager of the **Westinghouse Electric Supply Company,** has been elected president of the company, with headquarters at 150 Varick street, New York.

W. E. Cade, Jr., and **T. F. Dwyer, Jr.,** have formed the **Cade-Dwyer Company,** 683 Atlantic avenue, Boston, Mass., for the continuance of the business established by the late F. A. Barbey, with whom they were associated for years.

The Electro Metallurgical Company, unit of **Union Carbide and Carbon Corporation,** New York, proposes to locate a new plant in the Wilson dam, Alabama, area. The plant will be constructed principally for the manufacture of ferro-alloys, calcium carbide, and other electric-furnace products.

Wallace L. Cook, who has been in charge of the work of co-ordinating the functions of selecting and training employees for the Chicago district of the **Carnegie-Illinois Steel Corporation,** has been appointed director of personnel, and **Lawrence G. Andrews,** assistant superintendent of industrial relations at South Works, has been appointed assistant director of personnel, with headquarters at Chicago.

The directors of the **National Malleable & Steel Castings Company,** Cleveland, Ohio, at a meeting on September 30, elected **James A. Slater** a director to fill the vacancy on the board caused by the death of **Oliver W. Loomis** on August 19. Mr. Slater is vice-president of the company in charge of railway sales. He was first employed by the National Malleable Castings Company, a predecessor of the present company, in 1897, and served in various capacities prior to 1913, when he went to Chicago as manager of railway sales in that territory. He returned to Cleveland in 1921 and, continuing in sales work, was elected assistant vice-president in 1931 and vice-president in 1934.

Charles O'Hara has been elected president of the **Merchants Despatch Transportation Corporation,** Rochester, N. Y., to succeed **Martin J. Alger,** who has resigned the presidency to become chairman of the executive committee; **Charles M. Wynns** has been elected vice-president in place of **Frederick S. Welsh,** deceased, and **Kenton C. Underwood** has been appointed general manager; **J. M. O'Mahoney** is secretary.

George H. Corliss, advertising and sales promotion manager for the past four years for the **Lewis-Shepard Company,** Boston, Mass., has been appointed regional manager for the company, with headquarters at 1401 Santa Fe avenue, Los Angeles, Cal. Mr. Corliss was formerly associated with the S. A. Woods Machine Company, Boston; J. A. Fay & Egan Company, Cincinnati, Ohio, and the Kewaunee Mfg. Co., Kewaunee, Wis.

George S. Case, Jr., vice-president and general manager of the **Lamson & Sessions Company** of Chicago, has been elected vice-president and general manager of the Lamson & Sessions Bolt Company, Birmingham, Ala., to succeed **H. P. Ladds,** resigned, and has been succeeded by **William M. Olsen,** manager of the stove bolt and machine screw sales department of the Lamson & Sessions Company of Cleveland, Ohio. Mr. Olsen has been succeeded by **G. Rider Neff** of the sales department at Cleveland. **Alexander M. Smith,** who has been in charge of the experimental and development department, has been promoted to assistant general manager of the Lamson & Sessions Company of Chicago.

The Westinghouse Electric Elevator Company recently acquired the assets and business of the A. B. See Elevator Company, Inc. This absorption will involve a considerable increase in personnel, office and manufacturing space, and production, according to an announcement by F. C. Reed, president of the Westinghouse Company. The headquarters of the company are being moved from 1500 North Branch street, Chicago, to 150 Pacific avenue, Jersey City, N. J., and a considerable number of employees are being shifted to the latter area, although production will be continued at the Chicago works. Office space at the new headquarters will be doubled, and the present manufacturing space in the Jersey City works will be augmented by about 50 per cent.

* * * *

Construction

DENVER & RIO GRANDE WESTERN.—This company plans to rebuild immediately its coal chute and enginehouse at Thistle, Utah, which were totally destroyed by fire above the foundations on September 17. The same fire also destroyed the combined machine shop and powerhouse at the same point. The property loss totalled about $40,000.

MISSOURI PACIFIC LINES.—Plans are being made by this company for the reconstruction of its car repair shop at San Antonio, Tex., which was recently destroyed by fire.

TEXAS & PACIFIC.—This company has applied to the Louisiana Public Service Commission and the Interstate Commerce Commission for permission to erect a new passenger station at Shreveport, La., at a cost of approximately $100,000. The company plans to abandon service at the Shreveport Union Station.

WAYNESBURG & WASHINGTON.—The Baltimore & Ohio, the New York Central, and the Pittsburgh & Lake Erie have been granted permission by the Interstate Commerce Commission, Division 4, to intervene in the case of the application of this company to construct a line from Hackney, Pa., to a connection with the line of the Pittsburgh, Cincinnati, Chicago & St. Louis at Tylerdale.

Photo by Collons

The D. & R. G. W. "Scenic Limited" Eastbound at Minturn, Colo.

Financial

BROWNSVILLE & MATAMOROS BRIDGE.—*Notes.*—This company has applied to the Interstate Commerce Commission for authority to issue $220,000 of 10 year 3 per cent unsecured notes.

CARLTON & COAST.—*R.F.C. Loan.*—The Interstate Commerce Commission, Division 4, has authorized an extension of the time of payment, for a period ending not later than May 1, 1941, of loans to this company by the Reconstruction Finance Corporation, in the amount of $490,296, matured and maturing on May 1, October 3, November 1, and December 22, 1936, and September 7, and October 23, 1937.

CHICAGO & NORTH WESTERN.—*Abandonment and Joint Operation.*—The Interstate Commerce Commission, Division 4, has authorized the trustee to abandon the so-called Amasa branch extending from its terminus at Amasa, Mich., northerly and southeasterly to a connection with its Mansfield branch at survey station 701 + 70, 12.9 miles, together with the part of the Mansfield branch extending from its easterly terminus to the west end of the bridge over Paint River, 1.3 miles. The commission has also authorized the trustee to operate, under trackage rights, over a line of the Chicago, Milwaukee, St. Paul & Pacific extending from a connection with the Milwaukee's main line at a point near and northeasterly from Crystal Falls, Mich., northeasterly to Kelso Junction, thence northwesterly and northerly to Amasa and beyond to a point where the main line of the Milwaukee diverges from the Amasa branch, 19.3 miles.

CHICAGO, ROCK ISLAND & PACIFIC.—*Abandonment.*—The Interstate Commerce Commission, Division 4, has authorized the trustees to abandon operation and the trustees of the Rock Island & Dardanelle to abandon its entire line extending from Ola, Ark., to Dardanelle, 13.9 miles.

ERIE.—*Securities.*—This company has asked the Interstate Commerce Commission to extend to December 31, 1939, the time within which $5,431,000 of first mortgage consolidated general lien 4 per cent gold bonds may be pledged as security for short term notes.

GEORGIA & FLORIDA.—*Equipment Certificates.*—This company has amended a previous application for Interstate Commerce Commission permission to issue $300,000 of 4 per cent certificates of indebtedness, and now seeks, in lieu of the above, authority to assume liability for $300,000 of 4 per cent receivers first lien equipment certificates, dated September 15, 1926, and maturing $20,000 semi-annually.

ILLINOIS CENTRAL.—*Abandonment.*—The Yazoo & Mississippi Valley has applied to the Interstate Commerce Commission for authority to abandon its 3.14-mi. line between Minter Junction, Miss., and Sisloff.

ILLINOIS CENTRAL.—*Abandonment.*—The Interstate Commerce Commission, Division 4, has authorized this company to abandon its branch line extending from Buckingham, Ill., to Unz, 5.8 miles.

JACKSONVILLE & HAVANA.—*Sale.*—The Jacksonville & Havana was sold at public auction at Virginia, Ill., on October 4 for $119,000 to Henry P. Andrews and Leonard A. Wales of New York. They plan to sell the terminals as railroad property and take up the remainder of the line for disposal as scrap. The road was sold as a single unit, after the aggregate bids of five parcels, as directed in a federal court order, amounted to only $118,661. The road was part of the Chicago, Peoria & St. Louis, organized in 1887 and when the system was sold in units in 1926 became the Jacksonville & Havana.

LEHIGH VALLEY.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon operation and the Lehigh Valley Railway has applied for authority to abandon the line extending from Canastota, N. Y., to Camden, 20.3 miles.

LOUISIANA, ARKANSAS & TEXAS.—*Abandonment and Joint Operation.*—The Interstate Commerce Commission, Division 4, has authorized this company to abandon operation under trackage rights over a line of the Missouri-Kansas-Texas extending from Greenville, Tex., to Dallas, 54 miles; and to operate under trackage rights over a line of the Gulf, Colorado & Santa Fe, extending from Farmersville, Tex., to Dallas, 41.1 miles.

NEW YORK, NEW HAVEN & HARTFORD.—*Abandonment.*—Examiner W. J. Schutrumpf of the Interstate Commerce Commission, in a proposed report to the commission has recommended that it authorize the trustees to abandon operation and the trustees of the Old Colony to abandon the line extending from Greenbush, Mass., to Kingston, 14.2 miles.

NEW YORK, NEW HAVEN & HARTFORD.—*Severance of Providence & Worcester.*—The Providence & Worcester has filed with the Interstate Commerce Commission a brief in opposition to the petition in which the State of Rhode Island asks that the P. & W. be separated from the New Haven and operated as an independent line.

NEW YORK, NEW HAVEN & HARTFORD.—*Reorganization.*—The Interstate Commerce Commission, Division 4, has issued an order permitting the Manhattan Company to intervene in the reorganization proceedings of this company. Division 4 has also ordered that a report by the Bureau of Valuation on the value of this property be made a part of the record in the reorganization proceedings.

NEW YORK, NEW HAVEN & HARTFORD.—*Equipment Trust Certificates.*—The Interstate Commerce Commission, Division 4, has authorized the trustees to assume liability for $1,660,000 of 3 per cent equipment trust certificates, maturing in 10 equal annual installments of $166,000 on September 1, in each of the years from 1938 to 1947. The issue has been sold at 98.517 to a group composed of Salomon Brothers & Hutzler, Dick & Merle-Smith, and Stroud & Co., making the average annual cost to the trustees approximately 3.304 per cent.

NORTHERN.—*Abandonment.*—The Interstate Commerce Commission, Division 4, has authorized this company to abandon its Bristol branch extending from Franklin, N. H., to Bristol, 13 miles.

NORTHERN PACIFIC.—*Abandonment.*—The Interstate Commerce Commission, Division 4, has authorized this company to abandon its so-called Crocker branch extending from Crocker, Wash., to the end of the line at Wingate, 5.4 miles.

SOUTHERN PACIFIC.—*Acquisition.*—This company has applied to the Interstate Commerce Commission for authority to acquire the properties of the South Pacific Coast.

SOUTHERN PACIFIC.—*Abandonment.*—The Texas & New Orleans has applied to the Interstate Commerce Commission for authority to abandon freight service between Erath, La., and Clesne, 3.08 miles, on the railroad of the Erath Sugar Company; and on its own line between Clesne and Barba, 2.82 miles. The application also asks permission to take up 1.1 miles of track on the latter section.

TENNESSEE, ALABAMA & GEORGIA.—*Securities.*—This company has applied to the Interstate Commerce Commission for authority to (a) issue 118,105 shares of capital stock of a par value of $5 per share, (b) issue rights to subscribe for 15,405 shares of said stock, and (c) issue $1,027,000 of its collateral lien 20 year 4 per cent sinking fund bonds.

WILKES-BARRE & EASTERN.—*Reorganization.*—This road has filed with the United States District Court for the Middle District of Pennsylvania and the Interstate Commerce Commission a petition to reorganize under section 77 of the federal bankruptcy law. The road has been operated under an agreement as a through line with the New York, Susquehanna & Western which latter had guaranteed operating expenses, fixed charges and taxes. The Susquehanna, itself in bankruptcy, has disaffirmed all contracts with the W.-B. & E., effective October 1. The capital stock of the latter, which operates 63 miles of line from Stroudsburg, Pa., to Plains, is owned by the Susquehanna. The applicant has outstanding $2,665,000 of bonds, maturing in 1942, on which the interest due June 1 in the amount of $66,625 remains unpaid. This company, erroneously designated in last week's issue as the Wilkes-Barre & Easton, has applied to the commission for authority to abandon its line extending from Stroudsburg, Pa., to Suscon, 54 miles.

Average Prices of Stocks and Bonds

	Oct. 5	Last week	Last year
Average price of 20 representative railway stocks..	37.90	40.10	57.78
Average price of 20 representative railway bonds..	73.61	73.73	84.46

Dividends Declared

Philadelphia & Trenton.—$2.50, quarterly, payable October 11 to holders of record October 1.

Piedmont & Northern.—75c, quarterly, payable October 11 to holders of record September 30.

Railway Officers

EXECUTIVE

C. B. McManus, vice-president of the New York, Ontario & Western, with headquarters at New York, has resigned to become vice-president of L. Gulotta & Company, coal operators, with headquarters in the same city.

R. W. Wirt, assistant vice-president of the Southern system at Washington, D. C., has had his jurisdiction extended to include all matters, other than live stock loss and damage freight claims, heretofore coming under the jurisdiction of **V. A. Slaughter,** general live stock agent, retired.

L. R. Capron, freight traffic manager on the Northern Pacific, with headquarters at St. Paul, Minn., has been appointed assistant vice-president, traffic department, of the Chicago, Burlington & Quincy, with headquarters at Chicago, effective October 15.

FINANCIAL, LEGAL AND ACCOUNTING

J. W. White has been appointed auditor of freight accounts of the Union Pacific, with headquarters at Omaha, Neb., to succeed **G. W. Streicher,** who has retired.

J. J. Hooper, live stock claim agent of the Southern, with headquarters at Washington, D. C., retired on October 1 after 50 years of service with this company. Hereafter live stock loss and damage freight claims will be handled under the jurisdiction of **M. G. Ware,** general freight claim agent at Chattanooga, Tenn.

OPERATING

R. D. McGee has been appointed acting transportation inspector on the Panhandle & Santa Fe, with headquarters at Slaton, Tex., to succeed **L. H. Hungate,** who has been granted a leave of absence. Mr. McGee's territory will include all of the Slaton division except the First district.

H. A. Carson, general freight agent of the Central Vermont, with headquarters at St. Albans, Vt., has been appointed general manager. **M. E. Barnes,** superintendent of the Northern division at St. Albans, has been appointed assistant general manager. These appointments follow the death of **Edmund Deschenes,** vice-president and manager of the road.

W. W. Wright, trainmaster of the St. Louis sub-division of the Evansville division of the Louisville & Nashville, has been promoted to assistant superintendent of the Evansville division, with headquarters at Evansville, Ind., to succeed **J. H. Fish,** whose promotion to superintendent was reported in the *Railway Age* of September 18. **T. J. Ingersoll,** assistant trainmaster on the Louisville division, with headquarters at Louisville, Ky., has been promoted to trainmaster of the St. Louis sub-division of the Evansville division to succeed Mr. Wright.

Patrick O'Sullivan, trainmaster on the Atchison, Topeka & Santa Fe, with headquarters at Chillicothe, Ill., has been promoted to superintendent of the Southern Kansas Division, with headquarters at Chanute, Kan., to succeed **A. A. Gist,** who has retired. **Harry G. Arnold,** trainmaster on the Middle division, with headquarters at Newton, Kan., has been promoted to superintendent of the Eastern division, with headquarters at Emporia, Kan., succeeding **F. E. Summers,** who has retired. **Guy R. Buchanan,** chief dispatcher at Chanute, has been promoted to trainmaster at the same point to succeed **Charles D. Notgrass,** who has been transferred to Chillicothe to replace Mr. O'Sullivan. **Horace G. Focht,** chief dispatcher, with headquarters at Arkansas City, Kan., has been promoted to trainmaster at Newton to succeed Mr. Arnold.

Mr. Gist has been in the service of the Santa Fe for 32 years. He was born at Sabetha, Kan., on June 7, 1870, and was educated at Kansas State Agricultural College. He entered railway service in the same year as an agent-operator on the Kansas division of the Union Pacific, leaving this company in the following year to enter government service. In 1905, he returned to railway service as a clerk on the Santa Fe, being advanced through the positions of operator, agent, chief clerk to superintendent and trainmaster. He has served as superintendent of the Southern Kansas division at Chanute since 1929.

Mr. Summers has 42 years of service with the Santa Fe. He was born on October 10, 1864, at Farmington, Ill., and after a public school education he entered railway service on April 1, 1885, as a brakeman on the Burlington & Missouri River (now part of the Chicago, Burlington & Quincy), later serving as a conductor on this road. From May, 1888, to April, 1895, Mr. Summers was a conductor on the Union Pacific, leaving this company at the end of this period to take a similar position on the Santa Fe. In March, 1906, he was promoted to trainmaster and in October, 1910, he was further advanced to division superintendent, which position he held until his retirement.

H. A. Benton, general manager of the Seaboard Air Line at Norfolk, Va., has been appointed also chief operating officer of the Macon, Dublin & Savannah. **J. S. Crews,** assistant general manager of the latter road, has retired after more than 52 years of railroad service. **C. D. Boyd,** trainmaster on the Seaboard Air Line at Savannah, Ga., has been appointed general manager of the Macon, Dublin & Savannah at Macon, Ga. Mr. Boyd has also been appointed general superintendent of the following roads, succeeding Mr. Crews: The Jacksonville, Gainesville & Gulf, with headquarters at Gainesville, Fla., and Macon, Ga.; the Chesterfield & Lancaster, with headquarters at Cheraw, S. C., and Macon; the Charlotte, Monroe & Columbia, with headquarters at Cheraw and Macon; the Raleigh & Charleston at Marion, S. C., and Macon; and the Tavares & Gulf, at Tavares, Fla., and Macon.

Mr. Crews was born in Union, S. C., on March 3, 1866, and began railroad

J. S. Crews

service as agent-operator for the Richmond & Danville (Southern) at Santuck, S. C., in March, 1886. After service on the Central of Georgia and the Richmond & Danville, he was placed in charge of the Northeastern of Georgia (Southern) and the Albany & Northern (Georgia, Southwestern & Gulf), successively. Mr. Crews was placed in charge of the Greenville & Knoxville (Greenville & Northern) in February, 1911, and became general superintendent of the Tombigbee Valley (Alabama, Tennessee & Northern) in September of that year. In April, 1913, he was placed in charge of the Elberton & Eastern (operation discontinued) and in May, 1917, in charge of the Union & Glenn Springs (Buffalo, Union-Carolina), becoming receiver of the Raleigh & Charleston and general manager of the Maxton, Alma & Southbound in March, 1922. For the past 14 years Mr. Crews has been assistant general manager of the Macon, Dublin & Savannah; and in addition, since

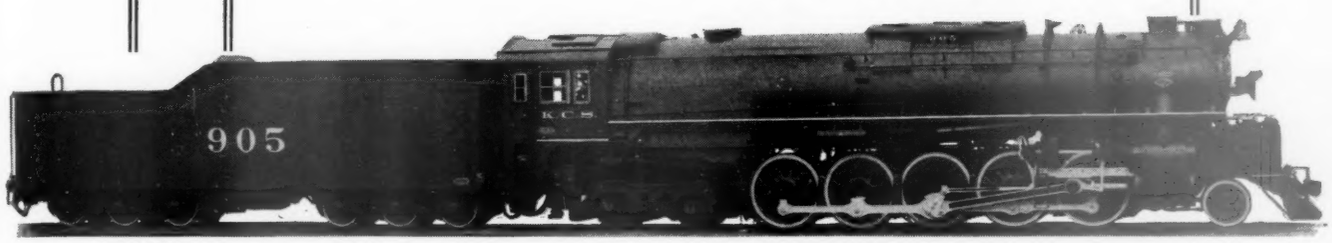
C. D. Boyd

July, 1927, general superintendent of the Tavares & Gulf, Raleigh & Charleston, Chesterfield & Lancaster, Jacksonville, Gainesville & Gulf, and the Charlotte, Monroe & Columbia.

Mr. Boyd was born in Spartanburg, S.

Continued on next left-hand page

MODERN POWER



One of the Kansas City Southern Coal Burning Locomotives recently built by Lima.

. . . *is*

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power

By combining modern power producing elements into a harmonious design, the modern locomotive provides high tractive effort for starting and a relatively high tractive effort at the high speeds required by modern train operation. » » » The result is a power unit that delivers greater ton-mile output at lower cost and yields substantially greater net earnings.

LIMA LOCOMOTIVE WORKS, INCORPORATED
LIMA, OHIO

LIMA
LOCOMOTIVE WORKS
INCORPORATED

C., on August 3, 1889, and entered railroad service in 1903 as an extra operator during summer school vacations with the Charleston & West Carolina, at Spartanburg. After completing his education in 1907, he returned to the same company and served in various positions until January, 1916, when he entered the service of the Seaboard Air Line as operator. In June of the same year he was promoted to dispatcher; in September, 1919, to assistant chief dispatcher; and in February, 1920, to chief dispatcher. Mr. Boyd was again promoted in November, 1924, to assistant trainmaster and in October, 1931, to trainmaster at Savannah, Ga., the position he was holding at the time of his recent appointment as general manager of the Macon, Dublin & Savannah.

TRAFFIC

Franklin V. Kemp has been appointed assistant to the general freight agent of the Baltimore & Ohio and the Alton at Chicago, to succeed **D. E. Sullivan,** who has retired.

George L. Halenkamp, district freight and passenger agent for the Southern Pacific, with headquarters at Louisville, Ky., has been promoted to general agent at Indianapolis, Ind., to succeed **T. B. Brennan,** who has been transferred to Buffalo, N. Y., where he replaces **G. H. Vogel,** who has been transferred to Philadelphia, Pa., to succeed **F. T. Brook,** who has retired.

Edward R. Morris, who has been appointed assistant freight traffic manager of the New York, Ontario & Western, at New York, as reported in the *Railway Age* of October 2, was born on August 30, 1895, in New York City. Upon leaving high school, he entered the employ of the

Edward R. Morris

New York, Ontario & Western, which he has served continuously, with the exception of a two year period during the World War. During his 27 years with the road he has been placed as chief of the tariff bureau, traffic representative, assistant to traffic manager, and general freight agent, which position he held at the time of his recent appointment as assistant freight traffic manager. Mr. Morris was admitted as a practitioner before the Interstate Commerce Commission on May 26, 1936.

ENGINEERING AND SIGNALING

Charles E. Miller, who has been appointed assistant engineer of maintenance of the Chicago & North Western, with headquarters at Chicago, as reported in the September 11 issue of the *Railway Age,* was born on January 25, 1883, at Adrian, Mo. Mr. Miller first entered railway service in June, 1902, and from that year until 1910, he attended the University of Nebraska intermittently while engaging in railroad construction and maintenance work. His first position was in the track department of the Chicago, Burlington & Quincy. He first entered the service of the Chicago & North Western on June 10, 1903, in the engineering department at Sioux City, Iowa. In March, 1905, after a period at college, he returned to the North Western and for a time engaged in maintenance work at Deadwood, S. D., later in the same year being assigned to duties in connection with the construction of a line from Pierre, S. D., to Rapid City. On the completion of this project Mr. Miller was sent to Omaha, Neb., where he was engaged on maintenance work until September, 1908, when he returned to college. During the following year he was engaged on location surveys for the North Western in South Dakota. Early in 1910, after completing his course in civil engineering at college, he returned to the North Western as assistant engineer on the construction of new lines, engaging on this work until April, 1913, when he was assigned to the chief engineer's office as assistant engineer. In May, 1915, he was promoted to assistant general bridge inspector, and in November, 1919, he was appointed supervisor of scales. In March, 1926, he was also given supervision over work equipment with the title of supervisor of scales and work equipment, which position he was holding at the time of his recent promotion.

MECHANICAL

Frank Sheppard Robbins, who has been appointed superintendent motive power of the Atlantic Coast Line at Wilmington, N. C., as noted in the *Railway Age* of September 25, was born on December 22, 1880, at Menantico, N. J. In March, 1900, Mr. Robbins entered the service of the Pennsylvania as machinist apprentice in the Meadows shops and in September, 1902, was furloughed to enter Purdue University, from which he was graduated in June, 1906, with a B.S. degree in mechanical engineering. In March, 1907, he completed his apprenticeship in the Altoona, Pa., shops of the Pennsylvania, then taking over special duties in the locomotive test plant and in studies of fuel and tonnage problems. From March to May, 1908, he was furloughed for service with the Berwind White Coal Company and in May, 1908, became fuel inspector of the Cresson division, and shop inspector of the Renovo, Pa., shop in November, 1908.

In November, 1909, Mr. Robbins was appointed assistant master mechanic, locomotive and car repairs, of the Monongahela division and in January, 1911, became assistant road foreman of engines of the Renovo division. He became assistant

F. S. Robbins

general foreman of the Pitcairn, Pa., car shop in December, 1913, and assistant master mechanic of the Pittsburgh division in July, 1914. In May, 1917, he was furloughed for military service and in March, 1919, returned to the Pennsylvania as assistant engineer of equipment, office of the assistant to president at Philadelphia, Pa. He became master mechanic of the Pittsburgh division in December, 1919, and in March, 1920, was appointed to a similar position on the Pittsburgh Terminal division. In March, 1921, Mr. Robbins resigned from the Pennsylvania and in May of that year became mechanical advisor of the Inter-Allied Technical Board, Trans-Siberian Railways, at Harbin, China. In December, 1922, he became railway representative of the Pittsburgh Testing Laboratory and in August, 1924, manager of its Philadelphia office. Mr. Robbins was appointed superintendent motive power and machinery of the Florida East Coast at St. Augustine, Fla., in May, 1926, which position he held until his recent appointment as superintendent motive power of the Atlantic Coast Line.

PURCHASES AND STORES

W. L. Oswalt, assistant works storekeeper of the Pennsylvania, with headquarters at Altoona, Pa., has been appointed works storekeeper, succeeding **O. V. Daniels,** deceased. **D. E. Frank** has been appointed assistant works storekeeper at Altoona and **A. L. Maugans** has been appointed storekeeper, Wilmington shop, at Wilmington, Del. **E. F. Chubb** has been appointed storekeeper, Juniata shop, Altoona, and **M. G. Jones,** storekeeper, West Philadelphia, Pa.

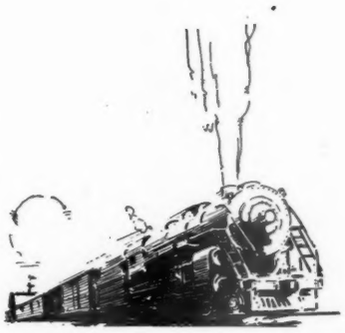
OBITUARY

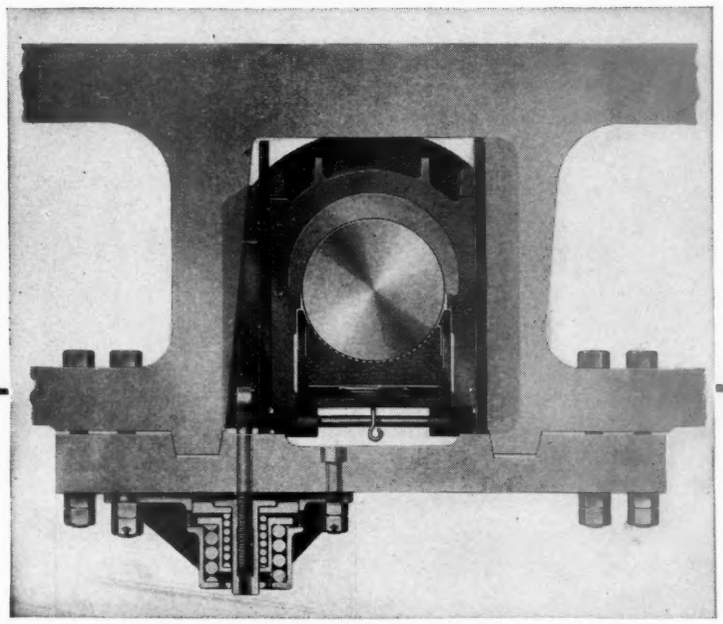
George Whiteley, superintendent of motive power and car department, Eastern lines of the Canadian Pacific, with headquarters at Toronto, Ont., died on September 29 of a heart attack, at his home in that city, in his 58th year.

Tables of Revenues and Expenses of Railways begin on next left-hand page

MAINTAINING DRIVING BOX ADJUSTMENT

. . . is a complicated problem





Holding driving boxes so they do not pound and do not stick, is impossible under the old methods.

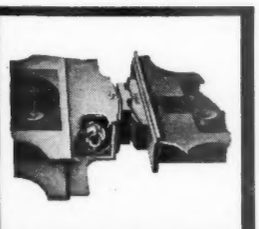
Regardless of box expansion due to temperature change freedom of vertical movement must be maintained.

Ample cushioned resistance to horizontal movement between the pedestal jaws must be provided to hold the box against pounding yet shield and cushion unusual shocks that otherwise might overstress parts and cause failure.

The Franklin Automatic Compensator and Snubber holds the box in adjustment at all times, by compensating for expansion and providing a yielding cushioned resistance to excessive blows.

It reduces maintenance, protects the track structure and vastly improves the riding quality of the locomotive. To the locomotive it is what the shock absorber is to your automobile.

Its twin, the Type E-2 Radial Buffer, prevents all slack between engine and tender and dampens oscillation between these units which further improves the riding qualities of the locomotive.



Franklin Type E-2 Radial Buffer dampens oscillation between engine and tender and makes for easier riding.

Because material and tolerances are just right for the job, genuine Franklin repair parts give maximum service life.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF AUGUST AND EIGHT MONTHS OF CALENDAR YEAR 1937

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: After depreciation 1937	After depreciation 1936	Before depreciation
Akron, Canton & Youngstown	Aug.	171	$171,391	$49	$181,012	$27,125	$21,726	$10,360	$55,085	$123,749	68.4	$57,263	$47,596	$30,962	$35,180	$35,606
	8 mos.	171	1,397,651	382	1,487,619	218,608	144,423	79,579	445,925	963,427	64.8	524,192	419,497	247,222	294,672	282,991
Alton	Aug.	956	1,079,258	218,203	1,480,898	257,296	262,632	50,413	566,585	1,202,851	81.2	278,047	213,261	11,256	34,768	41,708
	8 mos.	956	8,112,814	1,580,912	11,229,324	1,555,112	1,762,388	396,065	4,258,392	8,500,378	75.7	2,728,946	1,973,145	572,413	85,830	808,527
Atchison, Topeka & Santa Fe System	Aug.	13,540	11,775,855	1,729,035	14,637,139	2,984,276	3,451,222	446,969	5,159,766	12,390,401	84.7	2,246,738	1,090,239	839,123	2,061,998	1,807,898
	8 mos.	13,497	93,629,970	11,869,844	114,544,171	17,605,783	26,010,018	3,581,010	40,871,424	91,455,705	79.8	23,088,466	14,861,116	14,353,160	9,486,442	21,916,727
Atlanta & West Point	Aug.	93	98,200	28,257	148,176	21,597	31,283	8,417	63,007	135,977	91.8	12,199	2,863	—10,843	853	—2,441
	8 mos.	93	814,088	208,172	1,210,045	160,824	252,747	69,717	488,922	1,062,202	87.8	147,843	92,559	—15,698	—26,839	52,989
Western of Alabama	Aug.	133	95,436	26,681	137,087	23,437	30,691	7,473	52,106	123,656	90.2	13,431	1,859	7,270	—641	19,690
	8 mos.	133	781,573	202,696	1,118,469	153,860	279,810	62,538	417,946	994,944	89.0	123,525	50,958	73,089	2,097	170,782
Atlanta, Birmingham & Coast	Aug.	639	255,755	11,762	296,829	51,246	56,638	24,684	113,549	270,586	91.2	26,243	4,745	—6,833	38,945	4,148
	8 mos.	639	2,131,112	155,090	2,553,106	411,065	444,605	193,701	972,762	2,239,481	87.7	313,625	149,037	11,728	27,800	101,071
Atlantic Coast Line	Aug.	5,103	2,269,849	408,205	2,979,205	412,692	742,317	127,172	1,353,136	2,770,668	93.0	208,537	33,537	56,992	273,737	223,778
	8 mos.	5,102	23,963,069	5,970,541	33,314,462	3,298,589	6,161,378	1,125,512	12,594,992	24,684,972	74.1	8,629,490	5,079,490	3,974,801	2,573,546	5,326,578
Charleston & Western Carolina	Aug.	342	179,874	1,330	186,123	21,348	39,824	5,652	65,279	139,738	75.1	46,385	26,385	23,690	30,768	29,883
	8 mos.	342	1,680,237	9,645	1,734,140	222,264	270,158	55,660	542,677	1,137,744	65.6	596,396	424,896	373,210	303,455	422,832
Baltimore & Ohio	Aug.	6,450	12,520,581	1,100,085	14,412,947	1,542,720	2,914,066	424,580	5,254,099	10,737,202	74.5	3,675,745	2,754,997	2,358,034	3,115,696	2,960,347
	8 mos.	6,466	102,214,570	7,816,902	116,845,107	11,768,476	27,042,243	3,284,531	40,599,536	88,021,720	75.3	28,823,387	21,307,320	18,055,332	17,743,576	22,869,408
Staten Island Rapid Transit	Aug.	23	42,856	76,159	134,349	12,577	22,885	1,284	84,883	132,191	98.4	2,158	—16,842	—22,922	—29,932	—15,504
	8 mos.	23	401,857	568,107	1,043,223	105,217	180,292	13,512	658,569	1,050,757	100.7	—7,534	—172,534	—224,682	—292,652	—165,338
Bangor & Aroostook	Aug.	603	224,780	15,341	261,305	97,483	76,551	6,999	95,708	302,458	115.8	—41,153	—62,167	—42,407	—47,644	—20,580
	8 mos.	603	3,905,421	163,395	4,235,042	746,300	717,803	45,272	1,037,563	2,759,747	65.2	1,475,295	1,107,316	1,073,460	780,788	1,250,138
Bessemer & Lake Erie	Aug.	225	2,264,626	915	2,280,520	141,435	293,846	10,846	276,868	755,403	33.1	1,525,117	1,221,766	1,249,961	924,907	1,347,922
	8 mos.	225	12,864,677	6,688	12,986,722	1,124,748	2,413,478	95,879	1,900,333	5,839,424	45.0	7,147,298	5,692,624	6,090,039	3,411,608	6,739,648
Boston & Maine	Aug.	1,959	2,509,656	744,178	3,771,173	507,439	629,745	66,391	1,508,617	2,963,417	78.6	807,756	508,757	339,224	703,701	474,077
	8 mos.	1,961	22,464,788	5,017,004	31,899,439	4,095,419	5,002,221	533,188	12,061,698	23,156,309	72.6	8,743,130	6,312,277	4,726,942	1,696,090	5,800,389
Burlington, Rock Island	Aug.	255	78,696	20,528	108,817	18,698	15,924	4,666	54,584	102,484	94.2	6,333	—884	—25,406	—34,923	—23,585
	8 mos.	255	697,024	122,954	884,067	134,631	123,627	38,270	396,746	758,935	85.8	125,132	80,522	—60,933	—216,492	—45,852
Cambria & Indiana	Aug.	37	98,828	.....	98,960	12,565	40,499	370	9,917	68,771	69.49	30,189	5,587	73,582	74,962	90,071
	8 mos.	37	837,981	.....	838,821	60,352	332,748	3,120	87,144	531,602	63.37	307,219	57,977	627,956	483,606	762,582
Canadian Pacific Lines in Maine	Aug.	233	92,128	21,272	128,265	24,696	28,028	10,062	49,449	117,468	91.6	10,797	5,779	—10,220	—10,972	—8,042
	8 mos.	233	1,478,030	122,899	1,704,553	270,652	379,348	77,446	604,272	1,388,222	81.4	316,331	239,721	70,636	—119,681	87,858
Canadian Pacific Lines in Vermont	Aug.	85	67,124	13,530	94,801	19,022	20,452	4,472	53,231	100,481	106.0	—5,680	—7,284	—29,322	—35,964	—29,322
	8 mos.	85	613,721	78,777	790,684	115,277	214,274	34,423	477,014	882,447	111.6	—91,763	—140,347	—307,401	—449,835	—307,401
Central of Georgia	Aug.	1,926	1,045,165	146,465	1,319,637	222,894	327,982	53,609	564,532	1,240,752	94.0	78,885	—7,563	—1,689	91,603	64,582
	8 mos.	1,926	9,260,800	1,015,936	11,548,637	1,585,223	2,398,493	441,905	4,640,503	9,732,169	84.3	1,816,468	1,102,638	856,734	509,389	1,382,122
Central of New Jersey	Aug.	681	1,843,630	521,315	2,591,986	228,419	484,243	50,758	1,115,514	1,987,646	76.7	604,340	223,626	92,935	155,762	211,524
	8 mos.	681	17,312,996	3,168,241	21,986,432	1,664,761	3,905,225	379,381	9,014,724	15,836,736	72.0	6,149,696	3,060,885	1,793,383	865,426	2,749,556
Central Vermont	Aug.	455	391,231	53,019	491,679	106,130	80,864	15,376	264,304	487,158	99.1	4,521	—12,189	—54,262	—122,130	—29,269
	8 mos.	455	3,696,306	321,229	4,380,119	599,612	781,028	123,353	1,992,922	3,675,303	83.9	704,816	525,177	227,940	—149,654	434,253
Chesapeake & Ohio	Aug.	3,106	10,097,224	316,064	10,856,918	1,173,761	2,018,234	181,329	2,498,088	6,167,695	56.8	4,689,223	3,832,439	3,902,152	4,758,426	4,594,246
	8 mos.	3,106	79,386,967	2,313,274	84,943,800	9,092,868	15,340,168	1,517,410	19,673,689	48,331,059	56.9	36,612,741	27,237,218	27,571,275	31,446,579	33,074,618
Chicago & Eastern Illinois	Aug.	930	1,001,921	169,164	1,320,034	157,265	226,379	59,876	513,944	1,023,167	77.5	296,867	231,867	94,186	110,126	146,115
	8 mos.	930	8,560,046	1,039,908	10,866,487	1,286,231	1,931,885	468,211	4,134,087	8,365,591	77.0	2,500,896	1,855,896	740,975	632,425	1,148,451
Chicago & Illinois Midland	Aug.	131	327,275	1,350	343,358	46,175	66,047	17,311	89,742	236,799	69.0	106,559	65,364	66,658	86,198	81,465
	8 mos.	131	2,512,348	9,819	2,597,648	238,607	546,628	139,417	657,470	1,731,235	66.6	866,413	640,409	601,564	661,931	712,072
Chicago & North Western	Aug.	8,400	6,555,481	1,162,124	8,468,289	1,546,719	2,294,458	217,623	3,296,755	7,698,287	90.9	770,002	111,944	—129,791	1,126,615	291,651
	8 mos.	8,402	45,312,629	8,018,383	59,310,934	10,745,231	16,141,503	1,532,876	24,240,324	55,427,050	93.5	3,883,884	46,864	—1,442,601	161,644	1,878,564
Chicago, Burlington & Quincy	Aug.	8,976	7,125,491	1,041,600	9,012,749	1,474,778	1,417,168	226,365	3,047,629	6,446,691	71.5	2,566,058	1,652,091	1,014,088	1,378,009	1,419,595
	8 mos.	8,976	51,803,574	6,324,537	64,875,688	9,732,214	11,878,228	1,976,827	23,545,503	49,884,086	76.9	14,991,602	10,486,978	7,420,397	6,525,200	10,637,050
Chicago Great Western	Aug.	1,505	1,471,783	50,886	1,628,032	278,244	277,606	60,620	588,547	1,263,724	77.6	364,308	275,298	48,632	349,641	93,525
	8 mos.	1,505	11,090,732	360,337	12,209,392	2,021,237	1,983,228	474,272	4,681,037	9,604,435	78.7	2,604,957	1,888,402	302,524	918,656	656,718
Chicago, Indianapolis & Louisville	Aug.	575	690,735	48,697	827,166	110,485	233,279	31,830	345,220	758,886	91.7	68,280	26,018	—68,043	32,567	—31,078
	8 mos.	575	5,619,261	409,868	6,810,017	736,767	1,697,886	237,363	2,766,693	5,738,104	84.3	1,071,913	838,840	84,828	150,522	380,938
Chicago, Milw., St. Paul & Pacific	Aug.	11,113	8,058,506	829,161	9,833,303	1,735,275	1,762,508	213,348	3,591,966	7,699,887	78.3	2,133,416	1,418,416	914,509	1,027,458	1,372,904
	8 mos.	11,114	58,354,945	5,374,563	70,899,827	11,506,296	14,052,684	1,799,433	27,577,778	57,867,288	81.6	13,032,539	9,036,184	5,782,780	4,076,098	9,412,765

Continued on next left-hand page

NO. 35 OF A SERIES OF FAMOUS ARCHES OF THE WORLD

(Courtesy of American City)

THE BRIDGE OF FLOWERS
SHELBURNE FALLS, MASS.

A beautiful and unusual sight at Shelburne Falls, Massachusetts, on the line of the Boston and Maine Railroad, is what is known as The Bridge of Flowers. A concrete arch bridge, formerly a trolley bridge but now used to carry the water mains, has been transformed from a weed-infested irritation to a thing of beauty. The bridge consists of five arches and has a length of 400 feet. Beautifully landscaped, it is one of the show places of the town and is believed to be the only one of its kind.

* * * *

The Security Sectional Arch improves fuel economy, increases boiler capacity and reduces firebox and flue maintenance. By compelling a longer flameway and thoroughly mixing the gases and fines on their way to the flues, thus giving them a chance to burn, it insures more complete combustion. On any locomotive the Security Arch is a major factor in fuel economy and steaming capacity.

THERE'S MORE TO SECURITY ARCHES THAN JUST BRICK

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists

AMERICAN ARCH CO.
INCORPORATED

Locomotive Combustion Specialists » » »

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF AUGUST AND EIGHT MONTHS OF CALENDAR YEAR 1937—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: After depreciation 1937	After depreciation 1936	Before depreciation
Chicago, Rock Island & Pacific	Aug.	7,515	$5,531,153	$651,834	$6,719,402	$1,152,357	$1,269,124	$225,844	$2,570,782	$5,477,000	81.5	$1,242,402	$778,730	$367,865	$147,279	$705,660
	8 mos.	7,522	42,436,619	5,001,968	51,667,720	8,044,809	10,419,307	1,802,169	20,988,872	43,940,496	85.0	7,727,224	5,007,804	2,503,248	—1,093,048	5,210,363
Chicago, Rock Island & Gulf	Aug.	626	275,393	34,158	394,716	47,156	42,806	19,167	131,391	270,150	68.4	124,566	100,082	26,993	36,446	30,395
	8 mos.	626	2,253,358	254,176	3,279,811	436,132	312,013	147,561	1,114,352	2,223,230	67.8	1,056,581	924,856	373,998	190,588	402,940
Chicago, St. Paul, Minneap. & Omaha	Aug.	1,648	1,598,984	178,537	1,888,144	299,424	337,296	38,736	776,539	1,521,952	80.6	366,192	242,780	107,844	315,533	157,375
	8 mos.	1,648	9,664,276	1,129,980	11,604,725	1,748,237	2,357,470	290,946	5,634,276	10,636,590	91.7	**968,135**	**377,601**	—492,359	254,419	—96,843
Clinchfield Railroad	Aug.	308	540,427	5,770	552,189	44,917	97,703	18,445	104,182	281,110	50.7	272,079	242,079	285,831	225,263	321,990
	8 mos.	308	4,598,315	36,693	4,684,763	355,640	914,615	149,189	888,655	2,428,873	51.8	2,255,890	1,898,877	2,161,172	1,640,432	2,446,829
Colorado & Southern	Aug.	797	618,311	60,671	733,868	94,596	119,444	13,980	261,440	518,555	70.7	215,313	149,178	120,042	69,167	151,316
	8 mos.	857	4,400,162	293,275	5,139,240	558,859	1,015,527	111,629	2,005,591	3,953,575	76.9	1,185,665	757,496	586,194	155,134	836,495
Fort Worth & Denver City	Aug.	902	461,728	77,016	538,447	62,443	90,742	19,743	185,033	393,727	73.1	144,720	107,450	60,837	107,746	77,923
	8 mos.	902	4,715,535	426,765	5,035,543	402,337	729,042	146,048	1,482,715	3,037,480	60.3	1,998,063	1,782,326	1,445,745	586,275	1,582,812
Columbus & Greenville	Aug.	167	85,504	10,548	101,586	29,710	16,302	4,489	39,338	101,129	99.6	457	—10,507	—10,994	16,785	—8,180
	8 mos.	167	730,919	66,724	844,064	195,811	120,990	34,458	301,121	737,925	87.4	106,139	31,898	7,680	31,188	30,297
Delaware & Hudson	Aug.	830	1,597,999	147,903	1,839,961	324,489	550,172	45,064	739,040	1,763,790	95.9	76,171	—11,867	—43,392	191,219	42,674
	8 mos.	830	15,691,228	794,126	17,204,037	2,262,323	4,016,447	370,501	6,166,310	13,815,955	80.3	3,388,082	2,327,836	2,238,866	1,508,528	2,944,816
Delaware, Lackawanna & Western	Aug.	985	2,661,361	617,121	3,734,667	496,753	772,840	114,306	1,870,144	3,366,158	90.1	368,509	—6,491	5,895	294,494	213,742
	8 mos.	985	25,498,941	4,692,455	34,004,143	2,898,896	6,041,158	934,758	15,122,044	26,285,265	77.3	7,718,878	4,303,878	4,159,262	3,282,026	5,837,058
Denver & Rio Grande Western	Aug.	2,576	2,043,029	177,734	2,347,433	591,134	764,416	61,333	896,013	2,335,347	99.5	12,086	—209,239	—287,596	96,257	—190,092
	8 mos.	2,576	14,721,263	1,086,026	16,697,830	3,795,687	5,203,242	482,177	6,220,469	16,224,596	97.2	473,234	—757,532	—1,105,114	—165,402	—338,595
Denver & Salt Lake	Aug.	232	158,449	8,228	176,233	58,231	60,085	2,167	57,284	181,709	103.1	—5,476	—30,718	14,110	88,572	22,281
	8 mos.	232	1,435,508	55,965	1,567,716	305,415	434,418	19,325	479,748	1,277,757	81.5	289,959	98,336	413,514	449,686	479,889
Detroit & Mackinac	Aug.	242	71,992	4,026	82,666	14,120	16,065	871	**26,150**	**60,444**	**73.1**	22,222	19,081	13,694	21,687	16,476
	8 mos.	242	505,977	26,130	583,711	100,945	121,372	7,707	204,309	461,805	79.1	121,906	98,538	57,846	38,212	81,424
Detroit & Toledo Shore Line	Aug.	50	251,300	.....	252,265	21,783	23,048	8,528	71,609	132,937	52.7	119,328	92,915	51,714	33,353	57,850
	8 mos.	50	2,540,842	.....	2,557,349	195,043	188,538	64,453	632,998	1,144,204	44.7	1,413,145	1,156,877	732,820	694,826	781,080
Detroit, Toledo & Ironton	Aug.	472	504,382	348	530,190	80,728	92,098	11,789	127,871	333,661	62.9	196,529	164,220	117,004	151,183	137,855
	8 mos.	472	5,130,704	2,259	5,343,565	618,747	681,336	92,834	1,143,582	2,696,118	50.5	2,647,447	2,165,890	1,695,777	1,884,395	1,862,865
Duluth, Missabe & Iron Range	Aug.	537	3,579,313	3,172	4,138,238	218,454	237,865	3,988	555,842	1,048,796	25.3	3,089,442	2,575,266	2,576,863	1,921,290	2,642,022
	8 mos.	538	17,554,258	19,912	20,216,370	1,500,120	2,033,295	31,981	3,086,429	6,995,957	34.6	13,220,413	10,808,639	10,791,778	4,727,163	11,313,764
Duluth, Winnipeg & Pacific	Aug.	178	120,221	2,614	125,610	27,744	20,023	2,108	44,836	98,708	78.6	26,902	21,130	9,055	4,892	11,856
	8 mos.	178	922,682	16,072	963,792	182,255	148,999	16,447	383,467	765,080	79.4	198,712	133,356	16,228	—46,569	39,287
Elgin, Joliet & Eastern	Aug.	434	1,821,037	46	2,072,104	181,575	384,038	14,221	708,661	1,320,745	63.7	751,359	596,251	443,765	223,685	520,678
	8 mos.	434	13,875,129	67	15,827,885	1,291,479	3,213,106	115,709	5,515,343	10,502,033	66.4	5,325,852	4,412,258	3,406,518	2,335,390	4,003,244
Erie	Aug.	2,277	6,068,363	514,743	7,158,019	767,362	1,442,765	176,269	2,682,548	5,334,526	74.5	1,823,493	1,456,079	1,109,791	1,366,457	1,427,219
	8 mos.	2,281	49,690,117	3,568,016	57,770,971	4,929,344	11,205,708	1,393,769	20,870,610	40,714,780	70.5	17,056,191	13,190,135	10,750,013	10,061,103	13,291,006
New Jersey & New York	Aug.	45	11,857	43,854	58,137	6,268	13,973	518	47,442	69,334	119.3	—11,197	—16,501	—32,135	—30,914	—32,124
	8 mos.	45	122,576	358,405	499,680	42,739	118,746	4,292	377,991	556,145	111.3	—56,465	—108,367	—224,819	—214,819	—224,731
New York, Susq. & Western	Aug.	143	179,781	27,107	216,699	30,198	28,944	3,221	106,926	180,522	83.3	36,177	10,738	—11,586	2,641	—6,166
	8 mos.	143	1,914,350	194,897	2,203,533	178,562	236,176	33,271	909,934	1,449,169	65.8	754,364	519,007	267,324	279,205	311,024
Florida East Coast	Aug.	684	261,185	115,168	424,078	105,333	149,204	20,208	185,438	482,078	113.7	—58,000	—134,583	—157,883	—156,064	—119,065
	8 mos.	684	3,795,898	2,188,790	6,680,664	803,783	1,180,916	179,866	2,198,506	4,834,859	72.4	1,845,805	1,218,448	817,575	662,057	1,128,108
Fort Smith & Western	Aug.							(CLASS II ROAD)								
	8 mos.							(CLASS II ROAD)								
Georgia Railroad	Aug.	329	265,667	19,724	308,058	48,016	58,887	18,441	129,279	268,921	87.3	39,137	24,435	48,089	62,658	58,717
	8 mos.	329	2,186,821	123,009	2,518,453	274,197	483,138	150,605	1,045,263	2,065,787	82.0	452,666	408,164	485,414	399,756	572,205
Georgia & Florida	Aug.	407	169,182	3,555	176,669	28,982	22,481	9,922	43,294	110,371	62.5	66,298	58,281	52,726	52,633	57,786
	8 mos.	407	871,653	20,879	925,243	200,686	150,521	70,271	320,618	788,933	85.3	136,310	74,461	44,849	—3,449	86,269
Grand Trunk Western	Aug.	1,032	1,509,357	125,306	1,767,055	265,717	329,395	40,287	785,338	1,499,477	84.9	267,578	208,047	53,034	—109,778	139,332
	8 mos.	1,032	14,816,121	707,019	16,757,499	1,977,319	3,035,182	314,333	6,581,471	12,590,793	75.1	4,166,706	3,255,317	2,086,467	2,115,178	2,781,408
Canadian Nat'l Lines in New Eng.	Aug.	172	103,137	13,570	127,135	57,194	24,376	2,562	70,091	160,019	125.9	—32,884	—42,748	—79,371	—38,478	—76,619
	8 mos.	172	851,130	59,696	996,261	252,740	183,951	19,989	522,577	1,039,676	104.4	—43,415	—152,787	—403,257	—502,018	—380,555
Great Northern	Aug.	8,093	9,361,779	531,267	10,789,412	1,230,258	1,432,828	176,958	2,981,431	6,102,455	56.6	4,686,957	3,382,808	3,170,796	3,129,508	3,477,149
	8 mos.	8,093	52,263,050	3,384,534	61,184,543	6,964,234	10,390,219	1,526,288	19,935,622	40,965,339	67.0	20,219,204	15,180,539	14,536,674	12,649,754	16,955,376

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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF AUGUST AND EIGHT MONTHS OF CALENDAR YEAR 1937—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: After depreciation 1937	After depreciation 1936	Before depreciation
Green Bay & Western	Aug.	234	$134,402	$747	$142,900	$32,741	$16,159	$6,922	$47,728	$107,592	75.2	$35,308	$26,610	$15,941	$7,477	$20,707
	8 mos.	234	1,089,747	5,411	1,136,760	252,183	134,706	51,729	374,916	847,745	74.5	289,015	210,827	154,620	121,665	192,788
Gulf & Ship Island	Aug.	259	102,280	14,028	125,370	18,788	26,625	2,961	63,094	115,639	92.2	9,731	—7,834	—19,347	—12,621	—15,600
	8 mos.	259	877,547	79,668	1,081,444	171,834	147,513	25,141	496,387	884,563	81.8	196,881	72,808	—9,411	—69,505	22,310
Gulf, Mobile & Northern	Aug.	936	573,130	33,278	629,260	58,840	85,269	38,761	176,498	391,358	62.19	237,902	175,902	120,949	154,756	141,420
	8 mos.	936	4,673,372	219,448	5,085,652	618,586	710,218	307,307	1,374,069	3,263,969	64.18	1,821,683	1,434,930	946,870	844,334	1,103,771
Illinois Central	Aug.	4,956	6,529,321	844,541	7,946,222	833,781	1,656,369	197,854	3,002,895	6,043,047	76.0	1,903,175	1,238,914	1,055,456	954,252	1,565,720
	8 mos.	4,960	52,601,598	6,500,384	64,593,065	6,773,492	14,272,729	1,698,530	25,633,071	51,610,106	79.9	12,982,959	8,944,025	7,287,136	7,363,450	11,449,479
Yazoo & Mississippi Valley	Aug.	1,619	1,082,845	107,369	1,272,967	113,956	214,588	32,128	496,428	906,997	71.3	365,970	218,659	134,696	199,538	175,822
	8 mos.	1,619	8,944,080	671,944	10,315,652	900,899	1,678,396	274,823	3,904,451	7,209,218	69.9	3,106,434	2,107,918	1,507,568	876,455	1,833,206
Illinois Central System	Aug.	6,576	7,612,166	951,910	9,219,189	947,737	1,870,957	229,982	3,499,323	6,950,044	75.4	2,269,145	1,455,511	1,198,952	1,160,328	1,750,342
	8 mos.	6,580	61,545,678	7,172,328	74,908,717	7,674,391	15,951,125	1,973,353	29,537,522	58,819,324	78.5	16,089,393	11,035,646	8,870,654	8,310,202	13,358,635
Illinois Terminal	Aug.	504	392,628	73,930	517,631	58,321	65,993	16,397	173,113	331,482	64.04	186,149	219,805	191,508	127,533	210,682
	8 mos.	504	3,225,703	574,372	4,133,945	445,486	587,385	129,282	1,324,490	2,637,917	63.81	1,496,028	1,206,996	1,009,612	959,792	1,161,136
Kansas City Southern	Aug.	878	1,153,314	24,907	1,280,541	120,195	178,813	46,442	363,793	772,618	60.3	507,923	419,923	362,435	314,340	396,038
	8 mos.	878	8,275,336	156,246	9,320,744	940,058	1,357,500	396,265	2,743,229	5,970,608	64.1	3,350,136	2,558,136	2,108,595	2,114,602	2,378,562
Kansas, Oklahoma & Gulf	Aug.	326	220,550	585	224,755	21,264	14,455	8,777	45,989	99,963	44.5	124,792	102,831	81,530	73,001	83,624
	8 mos.	326	1,519,261	4,512	1,548,149	189,001	121,734	70,629	347,009	724,135	46.8	824,014	681,656	528,613	531,111	545,362
Lake Superior & Ishpeming	Aug.	156	446,110	158	525,186	31,723	25,143	884	67,857	134,063	25.5	391,123	312,797	314,139	241,504	329,295
	8 mos.	156	1,963,706	1,012	2,306,068	237,614	209,016	6,201	378,584	885,918	38.4	1,420,150	1,044,730	1,049,096	697,262	1,162,518
Lehigh & Hudson River	Aug.	96	130,671	1,193	132,876	19,667	20,068	3,840	44,665	93,992	70.7	38,884	31,062	20,740	13,980	24,351
	8 mos.	96	1,101,824	2,551	1,110,284	131,753	171,899	31,467	378,980	771,789	69.5	338,495	236,665	142,214	83,472	171,420
Lehigh & New England	Aug.	215	245,496	Dr 21	248,367	24,553	66,967	6,296	98,139	210,593	84.8	37,774	28,070	32,032	64,938	51,141
	8 mos.	215	2,451,463	1,591	2,472,623	243,567	549,517	51,946	901,531	1,873,801	75.8	598,822	497,267	530,945	510,296	684,673
Lehigh Valley	Aug.	1,320	3,087,868	229,972	3,546,107	215,078	759,878	112,627	1,614,822	2,834,820	79.9	711,287	417,459	251,657	777,919	437,193
	8 mos.	1,322	29,311,859	1,760,448	33,138,749	2,282,238	6,758,265	906,370	14,147,955	25,374,209	76.6	7,764,540	5,455,381	3,834,944	5,250,491	5,338,689
Louisiana & Arkansas	Aug.	606	497,102	10,911	524,796	74,489	76,284	33,132	140,031	345,689	65.9	179,107	141,456	122,272	132,999	138,909
	8 mos.	606	3,688,327	74,004	3,899,681	519,478	566,539	253,177	1,113,508	2,627,850	67.4	1,271,831	1,004,548	818,430	936,984	943,370
Louisiana, Arkansas & Texas	Aug.	255	100,475	443	106,506	22,043	6,779	4,980	40,454	78,748	73.9	27,758	32,223	13,686	9,619	14,499
	8 mos.	255	823,112	1,824	863,741	170,096	85,794	38,980	316,660	650,331	75.3	213,410	191,703	53,063	49,429	59,608
Louisville & Nashville	Aug.	4,940	6,259,661	671,499	7,349,388	883,563	1,731,493	193,286	2,584,497	5,683,181	77.3	1,666,207	1,013,089	1,183,879	1,693,612	1,531,436
	8 mos.	4,941	51,495,695	4,724,575	60,345,259	6,522,594	13,600,490	1,517,357	20,935,438	45,065,429	74.7	15,279,830	9,958,586	10,772,528	11,450,160	13,546,279
Maine Central	Aug.	1,009	776,742	131,763	1,009,759	196,362	177,302	12,858	356,729	780,365	77.3	229,394	160,484	134,113	170,092	179,506
	8 mos.	1,009	7,158,263	726,458	8,554,411	1,368,080	1,415,482	98,655	2,920,083	6,113,635	71.4	2,440,776	1,886,328	1,474,151	683,015	1,827,532
Midland Valley	Aug.	351	152,483	19	155,273	24,131	14,455	2,202	34,416	78,421	50.5	76,852	66,323	54,381	50,023	56,564
	8 mos.	351	960,186	89	978,680	137,499	95,312	20,173	244,832	545,904	55.8	432,776	372,889	307,086	291,613	324,300
Minneapolis & St. Louis	Aug.	1,530	815,971	14,440	865,875	137,362	131,416	39,716	295,748	641,361	74.1	224,514	187,509	114,807	167,488	141,083
	8 mos.	1,530	5,044,230	91,183	5,412,702	820,421	946,335	332,405	2,306,583	4,706,740	87.0	705,962	537,976	127,325	500,316	336,730
Minneapolis, St. Paul & S. S. Marie	Aug.	4,301	2,404,513	153,097	2,798,805	385,035	436,665	58,262	1,031,330	2,013,337	71.9	785,468	593,748	413,692	582,062	510,789
	8 mos.	4,301	15,906,269	929,374	18,339,765	2,611,707	3,295,764	486,767	7,543,383	14,763,374	80.5	3,576,391	2,773,269	1,661,415	1,194,366	2,446,705
Duluth, South Shore & Atlantic	Aug.	549	215,921	19,980	257,495	41,976	49,884	3,790	88,771	194,634	75.6	62,861	49,051	35,479	91,622	42,643
	8 mos.	549	1,702,337	121,483	1,990,647	284,932	349,179	35,552	718,663	1,455,906	73.1	534,741	471,001	385,778	456,944	443,720
Spokane International	Aug.	163	87,069	1,706	95,256	13,349	**7,800**	**2,212**	27,152	55,091	57.8	40,165	34,988	30,336	25,051	31,972
	8 mos.	163	495,102	11,507	554,977	125,613	59,522	16,949	188,260	430,676	77.6	124,301	97,436	66,487	58,621	79,582
Mississippi Central	Aug.	150	77,598	3,756	83,829	20,604	11,853	7,419	22,612	67,695	80.8	16,134	11,380	5,073	16,015	7,273
	8 mos.	150	569,138	20,533	608,987	153,968	92,892	56,603	174,984	520,701	85.5	88,286	62,246	21,986	96,075	39,753
Missouri-Arkansas	Aug.	364	101,793	1,504	109,211	21,933	11,748	6,155	36,328	80,494	73.7	28,717	26,934	15,466	—5,073	16,516
	8 mos.	364	695,872	9,749	750,908	195,919	91,027	47,095	268,697	636,933	84.8	113,975	90,293	10,553	42,589	18,303
Missouri-Illinois	Aug.	193	151,907	189	155,055	30,689	20,524	2,684	42,425	102,730	66.3	52,325	44,958	24,789	—5,896	27,813
	8 mos.	193	993,123	5,377	1,014,697	199,823	115,603	21,995	304,719	686,183	67.6	328,514	291,138	169,363	34,495	193,591
Missouri-Kansas-Texas Lines	Aug.	3,293	2,464,400	192,035	2,881,550	346,085	499,350	124,223	989,966	2,095,154	72.7	786,396	564,035	287,023	396,088	385,777
	8 mos.	3,293	17,808,778	1,525,455	21,261,625	2,644,218	3,384,625	978,030	7,701,531	15,862,908	74.6	5,398,717	4,090,131	2,283,505	1,633,082	3,073,087
Missouri Pacific	Aug.	7,171	6,888,132	517,868	8,061,092	1,263,355	1,514,713	246,255	2,796,836	6,103,518	75.7	1,957,574	1,475,498	1,003,620	1,078,799	1,355,692
	8 mos.	7,171	53,213,487	3,743,239	61,961,536	8,632,516	11,720,130	1,987,899	22,437,685	47,211,265	76.2	14,750,271	12,169,233	8,236,595	6,236,169	11,024,442

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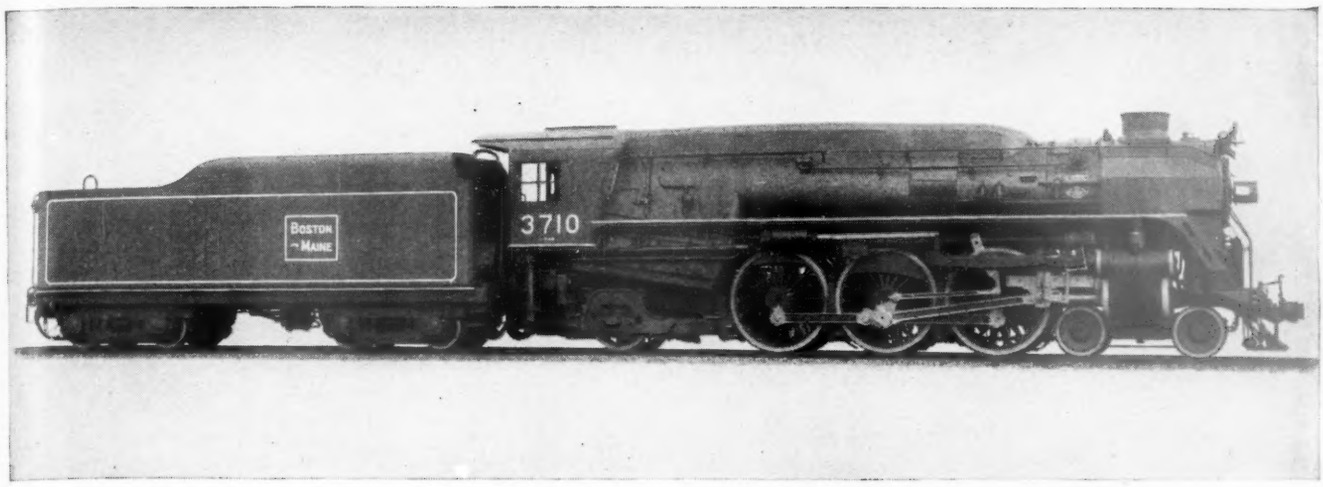

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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF AUGUST AND EIGHT MONTHS OF CALENDAR YEAR 1937—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: After depreciation 1937	After depreciation 1936	Before depreciation
Gulf Coast Lines	Aug.	1,763	$937,660	$52,336	$1,068,866	$183,404	$196,077	$48,146	$365,871	$842,116	78.79	$226,750	$188,433	$84,061	$22,309	$116,460
	8 mos.	1,763	10,383,455	353,842	11,262,981	1,476,695	1,592,059	375,459	3,192,717	7,042,537	62.53	4,220,444	3,873,123	2,727,063	683,178	2,991,408
International Great Northern	Aug.	1,154	897,692	121,144	1,147,961	168,691	212,243	32,769	460,051	926,230	80.7	221,731	164,678	68,687	49,017	98,520
	8 mos.	1,154	7,046,590	755,562	8,700,774	1,240,374	1,594,399	254,087	3,679,454	7,238,207	83.2	1,462,567	1,199,885	295,068	—10,574	532,872
Mobile & Ohio	Aug.	1,194	912,750	44,186	1,009,814	142,626	299,870	45,643	354,687	890,462	88.2	119,352	64,336	3,888	123,964	54,190
	8 mos.	1,196	7,428,302	273,389	8,178,211	1,009,106	1,647,969	346,897	2,960,156	6,346,459	77.6	1,831,752	1,367,161	853,593	518,775	1,256,168
Monongahela	Aug.	171	363,849	821	366,726	44,074	28,427	403	80,552	156,438	42.7	210,288	171,442	80,157	85,661	85,648
	8 mos.	171	2,975,326	7,561	3,009,595	337,384	234,685	3,713	658,321	1,260,435	41.9	1,749,160	1,458,714	785,453	869,535	829,589
Montour	Aug.	56	243,632	.....	244,583	17,250	47,313	1,008	56,403	128,494	52.5	116,089	80,843	111,982	121,236	126,045
	8 mos.	56	1,695,941	135	1,705,239	110,052	340,764	8,166	412,196	930,440	54.6	774,799	550,903	750,612	610,714	853,872
Nashville, Chattanooga & St. Louis	Aug.	1,117	915,324	100,500	1,118,061	140,973	290,943	61,799	456,190	1,006,217	90.0	111,844	36,253	64,529	167,329	108,961
	8 mos.	1,119	7,997,611	808,676	9,840,699	1,196,835	2,269,099	508,357	3,795,803	8,265,095	84.0	1,575,604	977,467	929,650	688,687	1,273,206
Nevada Northern	Aug.	165	51,523	759	56,602	8,957	3,439	1,024	9,108	26,859	47.5	29,743	20,372	23,818	12,523	29,759
	8 mos.	165	399,158	10,329	449,477	70,025	30,931	8,018	84,501	228,772	50.9	220,706	148,471	163,752	109,297	211,317
New York Central	Aug.	11,121	20,868,522	5,911,739	30,248,956	4,078,752	6,006,267	548,486	11,497,610	23,475,944	77.6	6,773,012	4,385,328	3,209,801	4,379,509	4,556,861
	8 mos.	11,181	176,343,805	43,456,543	247,801,482	26,453,939	52,358,267	4,482,653	92,035,571	186,947,019	75.4	60,854,463	38,797,775	28,989,421	28,323,905	39,683,817
Pittsburgh & Lake Erie	Aug.	233	1,873,153	60,934	1,997,948	216,100	493,121	27,232	636,324	1,459,425	73.1	538,523	359,778	546,996	532,289	701,768
	8 mos.	233	15,609,910	467,347	16,574,741	1,377,204	5,781,206	223,054	5,035,785	13,114,160	79.1	3,460,581	2,003,123	3,412,162	3,312,961	4,600,425
New York, Chicago & St. Louis	Aug.	1,704	3,386,097	106,864	3,615,423	428,745	563,215	117,269	1,197,498	2,436,945	67.4	1,178,478	1,090,998	846,915	821,437	986,289
	8 mos.	1,704	27,286,399	615,921	28,855,711	3,095,881	4,489,394	947,669	9,573,125	19,147,106	66.4	9,708,605	8,056,160	5,838,296	5,711,354	6,928,276
New York, New Haven & Hartford	Aug.	2,038	3,571,518	2,457,849	6,736,910	1,153,310	1,346,055	114,974	2,678,702	5,679,407	84.3	1,057,503	592,503	2,092	722,439	279,926
	8 mos.	2,034	31,336,684	17,552,862	54,868,405	7,122,710	9,774,391	958,613	20,990,897	42,206,828	76.9	12,661,577	8,766,577	3,920,228	3,226,597	6,182,707
New York Connecting	Aug.	20	124,621	.....	133,278	24,320	7,785	.....	29,183	62,513	46.9	70,765	33,200	12,421	128,560	12,421
	8 mos.	20	1,742,997	.....	1,838,496	116,198	63,348	.....	227,967	417,232	22.7	1,421,264	1,120,894	948,688	920,563	948,688
New York, Ontario & Western	Aug.	576	340,041	134,593	525,416	72,705	129,843	11,140	259,912	498,629	94.9	26,787	—3,382	—44,053	103,344	—21,218
	8 mos.	576	3,701,465	416,191	4,529,595	459,890	1,008,833	91,717	2,153,541	3,890,075	85.9	639,520	289,437	—8,524	851,154	180,689
Norfolk & Western	Aug.	2,201	7,893,677	226,663	8,331,422	903,435	1,589,141	143,391	1,889,768	4,739,073	56.9	3,592,349	2,426,154	2,761,321	2,885,172	3,171,747
	8 mos.	2,203	60,884,314	1,497,901	64,229,213	6,861,470	11,633,894	1,078,563	14,249,223	35,615,600	55.5	28,613,613	19,163,247	21,620,200	20,500,273	24,803,962
Norfolk Southern	Aug.	831	328,958	12,349	356,324	83,855	57,191	25,060	141,757	312,326	87.7	43,998	10,938	—3,456	12,974	7,730
	8 mos.	834	3,167,277	63,398	3,365,807	617,143	435,703	185,891	1,196,128	2,575,738	76.5	790,069	522,884	345,014	180,871	433,278
Northern Pacific	Aug.	6,726	5,306,428	527,220	6,354,585	717,981	1,433,795	156,838	2,185,550	4,828,168	76.0	1,526,417	939,794	1,240,437	1,389,863	1,511,808
	8 mos.	6,726	35,503,411	3,175,042	42,406,596	5,329,320	10,030,451	1,367,189	16,089,820	35,483,928	83.7	6,922,668	3,392,308	6,126,643	3,645,997	8,279,202
Northwestern Pacific	Aug.	351	273,680	76,007	374,005	66,202	60,752	4,293	195,204	340,744	91.1	33,261	13,190	—2,380	101,337	11,008
	8 mos.	351	1,808,033	551,022	2,576,287	442,576	439,403	34,904	1,346,372	2,369,885	92.0	206,402	74,755	—4,421	170,371	103,521
Oklahoma City-Ada-Atoka	Aug.	132	41,606	473	44,283	13,647	3,145	733	12,380	30,962	69.9	13,321	9,559	1,819	3,055	1,826
	8 mos.	132	324,487	3,613	347,084	97,590	15,492	6,357	91,423	226,834	65.4	120,250	100,045	46,465	111,598	46,523
Pennsylvania	Aug.	10,308	29,927,895	6,184,610	39,627,722	4,407,859	8,755,525	671,422	13,755,885	28,911,197	73.0	10,716,525	6,598,424	6,162,933	7,539,148	8,282,781
	8 mos.	10,308	238,332,514	47,387,932	314,095,305	34,232,996	68,909,586	5,372,417	110,546,512	233,301,532	74.3	80,793,773	52,053,559	48,709,844	50,404,084	65,296,740
Long Island	Aug.	396	442,115	1,850,506	2,404,997	234,469	402,500	26,194	1,006,556	1,710,133	71.1	694,864	293,853	110,893	380,180	208,024
	8 mos.	396	4,302,969	11,897,594	16,999,649	1,813,717	3,270,564	158,861	7,829,833	13,519,065	79.5	3,480,584	1,254,491	—38,519	1,071,669	741,266
Pennsylvania-Reading Seashore Lines	Aug.	412	277,276	636,617	946,179	80,718	96,276	12,486	401,370	608,638	64.3	337,541	195,705	25,579	136,241	41,935
	8 mos.	412	2,068,646	2,311,254	4,576,657	656,432	708,977	99,569	2,399,539	4,057,711	88.7	518,946	—217,150	—1,047,311	—770,608	—916,409
Pere Marquette	Aug.	2,115	2,246,250	146,337	2,590,075	398,168	588,744	70,478	949,965	2,117,866	81.8	472,209	417,063	308,708	272,424	520,530
	8 mos.	2,115	19,536,368	740,832	21,595,709	2,780,411	4,590,571	536,205	7,763,922	16,471,782	76.3	5,123,927	4,024,774	3,324,845	3,227,539	5,029,352
Pittsburg & Shawmut	Aug.	100	48,273	157	49,159	13,172	15,760	1,536	15,950	50,355	102.4	—1,196	—2,989	500	—4,618	5,045
	8 mos.	100	408,619	2,311	416,403	114,071	136,939	10,873	134,564	427,141	102.5	—10,738	—16,181	16,887	—21,222	50,926
Pittsburgh & West Virginia	Aug.	138	347,761	.....	362,844	80,493	75,080	18,766	75,890	272,799	75.2	90,045	62,432	97,393	92,655	121,822
	8 mos.	138	2,773,735	6,440	2,910,164	516,544	696,942	149,369	594,763	2,141,348	73.6	768,816	593,567	851,685	869,173	1,032,263
Pittsburg, Shawmut & Northern	Aug.	190	84,414	18	85,497	16,110	17,610	1,324	28,082	69,364	81.1	16,133	11,092	4,905	—5,645	6,735
	8 mos.	190	670,897	215	681,763	139,165	157,364	11,189	248,871	608,053	89.2	73,710	33,557	—20,517	12,505	—5,699
Reading	Aug.	1,452	3,877,696	281,638	4,378,387	443,130	814,602	73,245	1,854,629	3,341,856	76.3	1,036,531	744,175	840,305	1,205,034	1,098,137
	8 mos.	1,452	36,388,307	2,379,740	40,643,494	3,044,506	7,371,228	584,130	15,257,213	27,849,616	68.5	12,793,878	9,423,014	9,820,774	8,908,304	11,886,896
Richmond, Fredericksburg & Potomac	Aug.	117	320,822	182,046	603,525	120,835	144,939	8,410	218,996	530,008	87.8	73,517	30,260	20,214	71,161	47,317
	8 mos.	117	3,100,807	1,804,796	5,981,379	560,204	1,071,687	74,226	2,211,640	4,308,194	72.0	1,673,185	1,226,168	817,241	426,518	1,028,897

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: After depreciation 1937	After depreciation 1936	Before depreciation
Richmond, Fredericksburg & Potomac	Aug.	117	3,100,807	1,804,796	5,981,379	560,204	1,071,687	74,226	2,211,640	4,308,194	72.0	1,673,185	1,226,188	847,241	726,913	1,226,188
	8 mos.	117														
Rutland	Aug.	407	$192,786	$48,587	$307,705	$49,385	$53,336	$10,743	$141,420	$270,316	87.8	$37,389	$13,167	$15,374	$31,838	$26,679
	8 mos.	407	1,629,652	259,001	2,404,041	331,335	477,273	85,988	1,155,832	2,178,472	90.6	225,569	38,466	48,835	30,920	139,405
St. Louis-San Francisco	Aug.	4,896	3,526,349	349,477	4,221,116	651,827	1,021,831	112,462	1,639,445	3,604,466	85.4	616,650	296,400	372,263	598,301	635,741
	8 mos.	4,922	28,098,833	2,502,716	33,496,719	4,952,023	7,495,411	903,895	12,672,658	27,477,393	82.0	6,019,326	4,108,922	4,276,964	2,902,640	6,375,091
St. Louis, San Francisco & Texas	Aug.	261	157,316	814	164,422	26,574	16,750	8,085	56,191	114,490	69.6	49,932	42,050	12,441	—21,831	12,543
	8 mos.	261	1,033,963	4,185	1,082,129	214,085	112,815	59,857	443,118	885,870	81.9	196,259	160,561	—86,457	—325,793	—85,643
St. Louis Southwestern Lines	Aug.	1,706	1,710,448	33,941	1,824,007	299,415	276,858	74,347	538,650	1,270,339	69.6	553,668	448,453	302,892	249,260	352,403
	8 mos.	1,741	13,313,457	227,283	14,140,947	2,394,390	2,434,789	618,778	4,557,879	10,636,121	75.2	3,504,826	2,920,541	1,454,979	1,951,511	1,855,353
Seaboard Air Line	Aug.	4,307	2,266,796	385,337	2,930,960	445,783	737,940	150,958	1,200,265	2,719,840	92.8	211,120	11,120	23,993	126,914	190,958
	8 mos.	4,307	22,261,712	3,923,577	29,010,436	3,886,344	5,665,805	1,273,724	10,521,855	22,930,404	79.0	6,080,032	3,990,032	3,139,184	1,306,439	4,433,690
Southern Railway	Aug.	6,639	6,478,281	959,428	8,108,203	1,061,008	1,683,062	152,948	2,875,328	6,098,721	75.2	2,009,482	1,377,092	1,067,715	1,924,041	1,327,994
	8 mos.	6,639	54,458,351	6,941,344	67,108,142	8,268,203	12,856,051	1,201,249	23,035,106	47,896,514	71.4	19,211,628	14,427,691	11,501,338	11,420,840	13,590,528
Alabama Great Southern	Aug.	315	515,410	76,164	627,857	91,726	131,201	14,042	188,777	448,984	71.5	178,873	121,604	104,100	103,704	127,317
	8 mos.	315	4,191,750	476,567	4,994,086	715,666	1,091,423	97,428	1,498,496	3,575,971	71.6	1,418,115	995,879	858,562	545,255	1,044,484
Cinn., New Orleans & Texas Pacific	Aug.	336	1,225,711	107,952	1,411,328	165,012	273,244	28,198	361,946	879,814	62.3	531,514	371,609	361,347	413,855	411,396
	8 mos.	336	10,169,940	929,816	11,797,156	1,417,350	2,139,068	210,881	2,882,677	7,080,886	60.0	4,716,270	3,690,106	3,472,922	3,183,912	3,873,274
Georgia Southern & Florida	Aug.	397	145,992	29,529	191,829	33,896	45,748	1,684	72,655	159,631	83.2	32,198	10,477	12,506	9,615	19,304
	8 mos.	397	1,093,988	395,148	1,671,288	267,121	323,612	15,009	647,280	1,319,021	78.9	352,267	228,079	188,157	35,484	242,721
New Orleans & Northeastern	Aug.	204	237,708	28,222	282,144	39,628	36,488	6,271	85,811	180,285	63.9	101,859	57,458	35,565	37,689	41,583
	8 mos.	204	1,878,988	178,762	2,196,460	282,898	275,076	44,284	628,713	1,319,928	60.1	876,532	574,510	424,422	188,689	472,637
Northern Alabama	Aug.	100	65,029	2,068	68,739	13,941	1,324	1,328	20,251	38,926	56.6	29,813	23,127	7,789	12,570	7,837
	8 mos.	100	503,426	14,485	533,433	98,311	11,827	10,495	164,217	300,455	56.3	232,978	184,369	84,169	71,387	84,577
Southern Pacific	Aug.	8,764	11,140,277	2,289,319	14,753,278	1,505,886	2,682,301	343,814	6,079,424	11,570,268	78.4	3,183,010	2,018,678	1,269,687	2,541,822	1,782,970
	8 mos.	8,768	89,413,547	15,600,021	114,899,679	11,280,902	20,077,696	2,754,189	46,207,029	87,685,039	76.3	27,214,640	18,204,471	12,446,153	13,220,055	16,466,392
Southern Pacific Steamship Lines	Aug.	....	556,959	36,422	616,738	18,951	117,061	17,913	448,832	619,814	100.5	—3,076	—19,969	—20,341	10,084	14,825
	8 mos.	....	4,753,724	207,012	5,173,708	146,388	759,429	142,852	3,753,042	4,950,005	95.7	223,703	95,573	33,127	—125,769	314,181
Texas & New Orleans	Aug.	4,420	3,228,049	350,893	3,895,921	591,526	740,384	136,905	1,420,011	3,114,771	79.9	781,150	571,728	386,127	378,228	513,280
	8 mos.	4,425	26,384,980	2,441,004	31,218,324	4,726,059	5,590,384	996,907	10,653,646	23,867,967	76.5	7,350,357	5,041,390	3,198,468	2,015,719	4,256,205
Spokane, Portland & Seattle	Aug.	946	716,594	78,697	844,304	118,618	98,530	10,254	290,369	543,804	64.4	300,500	240,430	163,872	204,612	179,383
	8 mos.	946	5,113,315	390,393	5,929,464	723,838	726,635	76,566	2,192,899	3,953,733	66.7	1,975,731	1,614,047	1,142,878	698,234	1,266,809
Tennessee Central	Aug.	286	199,255	5,425	215,305	33,464	31,625	6,418	73,723	155,291	72.1	60,014	47,692	28,448	34,647	34,444
	8 mos.	286	1,556,232	41,737	1,689,412	299,451	250,172	50,153	582,375	1,261,897	74.7	427,515	359,261	216,792	273,782	264,505
Texas & Pacific	Aug.	1,936	2,057,038	265,932	2,518,993	292,107	484,384	82,504	765,292	1,760,175	69.9	758,818	567,184	405,609	435,234	499,968
	8 mos.	1,946	16,938,622	1,828,744	20,281,856	2,139,476	3,684,335	636,944	6,110,905	13,665,195	67.4	6,616,661	5,093,770	3,996,320	3,275,406	4,770,862
Texas Mexican	Aug.	162	118,296	506	132,162	20,577	19,814	3,232	41,126	91,435	69.2	40,727	34,082	26,297	21,423	27,940
	8 mos.	162	920,178	4,114	1,029,137	144,771	147,342	28,073	325,832	706,295	68.6	322,842	290,005	223,503	144,257	238,055
Toledo, Peoria & Western	Aug.	239	212,069	1	215,145	58,175	14,975	17,057	44,891	149,482	69.5	65,663	43,340	26,951	15,733	37,475
	8 mos.	239	1,531,651	8	1,552,572	394,554	115,222	140,284	372,784	1,113,315	71.7	439,257	313,528	183,082	216,369	258,074
Union Pacific System	Aug.	9,911	11,830,394	1,900,160	14,975,324	1,655,147	2,502,008	372,164	4,669,940	10,044,387	67.1	4,930,937	3,861,079	2,898,726	2,481,578	3,469,803
	8 mos.	9,914	83,446,990	11,518,925	104,152,081	13,286,759	20,972,638	3,031,590	35,639,971	79,368,700	76.2	24,783,381	15,031,229	9,986,003	9,642,933	14,468,127
Utah	Aug.	111	77,350	.....	77,398	19,043	27,332	434	18,834	70,400	91.0	6,998	—2,078	1,015	477	11,007
	8 mos.	111	754,541	.....	755,468	144,553	267,864	3,337	200,110	651,407	86.2	104,061	32,592	31,663	68,891	111,462
Virginian	Aug.	618	1,643,276	5,000	1,710,203	140,820	362,630	20,590	264,198	815,214	47.7	894,989	694,989	772,203	757,788	866,856
	8 mos.	618	12,360,920	30,320	12,895,665	994,863	2,495,313	166,861	2,053,791	5,951,163	46.1	6,944,502	5,317,502	5,952,664	5,345,894	6,709,183
Wabash	Aug.	2,433	3,273,998	239,208	3,767,325	612,901	825,471	156,974	1,466,823	3,199,040	84.9	568,285	355,932	40,689	389,684	220,193
	8 mos.	2,438	27,331,326	1,715,449	31,074,067	3,925,397	5,926,232	1,224,812	11,678,525	23,957,914	77.1	7,116,153	5,442,954	3,060,721	3,237,035	4,488,694
Ann Arbor	Aug.	293	299,741	6,623	333,479	37,608	79,213	14,120	140,424	284,817	85.4	48,662	29,438	19,098	41,658	37,428
	8 mos.	293	2,593,265	28,908	2,723,560	232,462	653,398	100,018	1,140,882	2,221,185	81.6	502,375	350,552	230,085	240,247	384,654
Western Maryland	Aug.	879	1,443,127	11,962	1,496,238	238,899	296,209	37,779	376,910	997,340	66.7	498,898	378,898	378,485	375,786	477,064
	8 mos.	881	11,728,767	67,408	12,109,888	1,680,694	2,524,617	316,978	3,016,481	7,958,836	65.7	4,151,052	3,196,052	3,274,467	2,846,634	4,039,729
Western Pacific	Aug.	1,207	1,389,617	55,207	1,482,928	404,447	335,601	62,315	566,149	1,414,861	95.4	68,067	—27,761	—113,435	47,523	—57,636
	8 mos.	1,207	9,796,389	315,970	10,406,383	2,689,885	2,451,443	466,869	4,294,752	10,316,013	99.1	90,370	—348,040	—953,650	—879,802	—523,448
Wheeling & Lake Erie	Aug.	512	1,354,112	2,475	1,439,556	211,164	265,661	33,639	450,837	981,908	68.2	457,648	296,773	386,120	394,927	461,957
	8 mos.	512	10,642,368	15,933	11,240,958	1,353,035	2,313,837	268,777	3,397,807	7,562,982	67.3	3,677,976	2,506,642	3,371,057	2,014,370	3,963,648

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF AUGUST AND EIGHT MONTHS OF CALENDAR YEAR 1937—CONTINUED

NEW POWER NEW PROFITS

The first of fifty new and improved Hudson type locomotives built for use on the Twentieth Century Limited and other famous trains of the New York Central System.

Weight on Drivers	196,000 pounds
Weight of Engine	360,000 pounds
Cylinders	22½ x 29 inches
Diameter of Drivers	79 inches
Boiler Pressure	275 pounds
Maximum Tractive Power (Engine & Booster)	55,540 pounds